Photo-electric sensors
XU range
Material handling & working, packaging

Catalogue

Simply easy!™

Telemecanique Sensors

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Photo-electric sensors

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Miniature design, plastic
Three-wire DC, solid-state output

XU_CP21047

XUM2A●XBL2, XUM2A●XBL03M8, XUM2A●XBL03M12

XU_CP21048

XUM2A●XBM8

Thru-beam system with adjustable sensitivity

Max./ operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight kg
Transmitter + receiver IO-Link *(1)*					
30 m/24 m	Light ON (NC)/ Dark ON (NO) configuration by IO Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM2APYBM8**	0 010
			M12 connector (4-pin)	**XUM2APYBL03M12**	–
Transmitter + receiver					
30 m/24 m	Light ON (NC)/ Dark ON (NO) configuration by potentiometer	PNP	Pre-cabled (L = 2 m)	**XUM2APXBL2**	0 096
			M8 connector (4-pin)	**XUM2APXBM8**	0 026
				XUM2APXBL03M8 *(1)*	–
			M12 connector (4-pin)	**XUM2APXBL03M12** *(1)*	–
		NPN	Pre-cabled (L = 2 m)	**XUM2ANXBL2**	0 096
			M8 connector (4-pin)	**XUM2ANXBM8**	0 026
				XUM2ANXBL03M8 *(1)*	–
			M12 connector (4-pin)	**XUM2ANXBL03M12** *(1)*	–
Transmitter only					
30 m/24 m			Pre-cabled (L = 2 m)	**XUM2AKXBL2T**	0 063
			M8 connector (4-pin)	**XUM2AKXBM8T**	0 010
				XUM2AKXBL03M8T *(1)*	–
			M12 connector (4-pin)	**XUM2AKXBL03M12T** *(1)*	–
Receiver only IO-Link *(1)*					
30 m/24 m	Light ON (NC)/ Dark ON (NO) configuration by IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM2APYBM8R**	0 010
			M12 connector (4-pin)	**XUM2APYBL03M12R** *(1)*	–
Receiver only					
30 m/24 m	Light ON (NC)/ Dark ON (NO) configuration by potentiometer	PNP	Pre-cabled (L = 2 m)	**XUM2APXBL2R**	0 063
			M8 connector (4-pin)	**XUM2APXBM8R**	0 010
				XUM2APXBL03M8R *(1)*	–
			M12 connector (4-pin)	**XUM2APXBL03M12R** *(1)*	–
		NPN	Pre-cabled (L = 2 m)	**XUM2ANXBL2R**	0 063
			M8 connector (4-pin)	**XUM2ANXBM8R**	0 010
				XUM2ANXBL03M8R *(1)*	–
			M12 connector (4-pin)	**XUM2ANXBL03M12R** *(1)*	–

Accessories

For all XUM miniature sensors

See page 5 .

For thru-beam system

See page 5 .

IO-Link Master *(2)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 4th quarter 2024.
(2) Available 2nd quarter 2024.

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Curves: page 8
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Photo-electric sensors

XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

XUM9A●XBL2

XUM9A●XBM8

Polarised reflex system with adjustable sensitivity

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight kg
Sensors IO-Link *(1)*					
8 m/6.7 m with reflector XUZC50	Light ON (NC)/ Dark ON (NO) configuration by IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM9APYBM8**	0 010
			M12 connector (4-pin)	**XUM9APYBL03M12** *(1)*	–
Standard sensors					
8 m/6.7 m with reflector XUZC50	Light ON (NC)/ Dark ON (NO) configuration by potentiometer	PNP	Pre-cabled (L = 2 m)	**XUM9APXBL2**	0 063
			M8 connector (4-pin)	**XUM9APXBM8**	0 010
				XUM9APXBL03M8 *(1)*	–
			M12 connector (4-pin)	**XUM9APXBL03M12** *(1)*	–
		NPN	Pre-cabled (L = 2 m)	**XUM9ANXBL2**	0 063
			M8 connector (4-pin)	**XUM9ANXBM8**	0 010
				XUM9ANXBL03M8 *(1)*	–
			M12 connector (4-pin)	**XUM9ANXBL03M12** *(1)*	–

XUM8A●XBL2

XUM8A●XBM8

Background suppression system with adjustable sensitivity

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight kg
300 mm/200 mm (white object or paper)	Light ON (NO)/ Dark ON (NC) configuration by potentiometer	PNP	Pre-cabled (L = 2 m)	**XUM8APXBL2**	0 063
			M8 connector (4-pin)	**XUM8APXBM8**	0 010
		NPN	Pre-cabled (L = 2 m)	**XUM8ANXBL2**	0 063
			M8 connector (4-pin)	**XUM8ANXBM8**	0 010

Accessories

For all XUM miniature sensors

See page 5 .

IO-Link Master *(2)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 4th quarter 2024.
(2) Available 2nd quarter 2024.

Photo-electric sensors

XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

XUM4A●XBL2

XUM4A●XBM8

XUM6A●XBL2

XUM6A●XBM8

XUM5A●XBL2

XUM5A●XBM8

Diffuse system with adjustable sensitivity

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight kg
Diffuse short range					
0.25 m/0.17 m	Light ON (NO)/ Dark ON (NC) configuration by potentiometer	PNP	Pre-cabled (L = 2 m)	**XUM4APXBL2**	0 063
			M8 connector (4-pin)	**XUM4APXBM8**	0 010
				XUM4APXBL03M8 *(1)*	–
			M12 connector (4-pin)	**XUM4APXBL03M12** *(1)*	–
		NPN	Pre-cabled (L = 2 m)	**XUM4ANXBL2**	0 063
			M8 connector (4-pin)	**XUM4ANXBM8**	0 010
			M8 connector (4-pin)	**XUM4ANXBL03M8** *(1)*	–
			M12 connector (4-pin)	**XUM4ANXBL03M12** *(1)*	–
Diffuse medium range IO-Link *(1)*					
1.1 m/0.8 m	Light ON (NO)/ Dark ON (NC) configuration by IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM6APYBM8**	–
			M12 connector (4-pin)	**XUM6APYBL03M12**	–
Diffuse medium range					
1.1 m/0.8 m	Light ON (NO)/ Dark ON (NC) configuration by potentiometer	PNP	Pre-cabled (L = 2 m)	**XUM6APXBL2**	0 063
			M8 connector (4-pin)	**XUM6APXBM8**	0 010
				XUM6APXBL03M8 *(1)*	–
			M12 connector (4-pin)	**XUM6APXBL03M12** *(1)*	–
		NPN	Pre-cabled (L = 2 m)	**XUM6ANXBL2**	0 063
			M8 connector (4-pin)	**XUM6ANXBM8**	0 010
				XUM6ANXBL03M8 *(1)*	–
			M12 connector (4-pin)	**XUM6ANXBL03M12** *(1)*	–
Diffuse long range IO-Link *(1)*					
1.9 m/1.5 m	Light ON (NO)/ Dark ON (NC) configuration by IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM5APYBM8**	–
			M12 connector (4-pin)	**XUM5APYBL03M12**	–
Diffuse long range					
1.9 m/1.5 m	Light ON (NO)/ Dark ON (NC) configuration by potentiometer	PNP	Pre-cabled (L = 2 m)	**XUM5APXBL2**	0 063
			M8 connector (4-pin)	**XUM5APXBM8**	0 010
				XUM5ANXBL03M8 *(1)*	–
			M12 connector (4-pin)	**XUM5ANXBL03M12** *(1)*	–
		NPN	Pre-cabled (L = 2 m)	**XUM5ANXBL2**	0 063
			M8 connector (4-pin)	**XUM5ANXBM8**	0 010
				XUM5ANXBL03M8 *(1)*	–
			M12 connector (4-pin)	**XUM5ANXBL03M12** *(1)*	–

Accessories for XU sensors

For all XUM miniature sensors

See page 5 .

IO-Link Master *(2)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See pages 80 to 85 .

(1) Available 4th quarter 2024.
(2) Available 2nd quarter 2024.

XU_CP21045

XUZASM05

Accessories for all XUM miniature sensors

Setting-up accessory

Description	For use with sensors	Reference	Weight kg
Air blower mounting block *(1)* for cleaning the sensitive face of the sensor, using compressed air . Supplied with 2 mounting screws (M3 x 20), 1 air supply port plugging screw for the unused port (of 2 available) and 1 gasket .	XUM●A●XBL2 XUM●A●XBM8	**XUZASM05**	0 030

XU_CP21039

XUZDVM●●

XU_CP21040

XUZDHM●●

XU_CP21041

XUZDRM●●

Accessories for thru-beam system

Diaphragms

Description	Dimensions	Sensing distance	Reference	Weight
	mm	m		kg
Vertical diaphragm Sold in lots of 2	0.5 x 6.4	1	**XUZDVM05**	0 003
	1 x 6.4	1 5	**XUZDVM10**	0 003
	2 x 6.4	3 5	**XUZDVM20**	0 003
Horizontal diaphragm Sold in lots of 2	0.5 x 6.4	0 7	**XUZDHM05**	0 003
	1 x 6.4	1 5	**XUZDHM10**	0 003
	2 x 6.4	3	**XUZDHM20**	0 003
Round diaphragm Sold in lots of 2	0.5 x 6.4	0 08	**XUZDRM05**	0 003
	1 x 6.4	0 3	**XUZDRM10**	0 003
	2 x 6.4	1 2	**XUZDRM20**	0 003

Accessories for XU sensors

IO-Link Master *(2)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See pages 80 to 85 .

(1) To order these references, please contact our Customer Care Centre.
(2) Available 2nd quarter 2024.

Photo-electric sensors

XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Characteristics

Sensor type				XUM●A●XBM8	XUM●A●XBL03M●	XUM●A●XBL2
Product certifications				CE, UKCA, cULus EAC, RCM *(pending)*		
Connection	Connector			M8	–	–
	Pigtail			–	Length: 0 3 m	–
	Pre-cabled			–	–	Length: 2 m
Configuration				IO-Link Potentiometer	IO-Link Potentiometer	Potentiometer
Nominal sensing distance Sn	Thru-beam system	XUM2	**m**	30 (with excess gain = 1) 24 (with excess gain = 2)		
	Polarised reflex system (using a 50 x 50 mm reflector XUZC50)	XUM9	**m**	0.05...8 (with excess gain = 1) 0.05...6.7 (with excess gain = 2)		
	Background suppression system	XUM8	**mm**	4 . 300: White paper or object .Sn (90%) 5 . 265: Grey object .Sn (18%) 8 . 200: Black object .Sn (6%)		
	Diffuse system (using a white paper 200 x 200 mm)	XUM4	**m**	0.25 (with excess gain = 1) 0.17 (with excess gain = 2)		
		XUM5	**m**	1.9 (with excess gain = 1) 1.5 (with excess gain = 2)		
		XUM6	**m**	1.1 (with excess gain = 1) 0.8 (with excess gain = 2)		
Hysteresis				2% < H < 20% at Sn		
Type of transmission	Red			Thru-beam system XUM2 Polarised reflex system XUM9 Background suppression system XUM8 Diffuse system XUM6		
	Infrared			Diffuse system XUM4 and XUM5		
Degree of protection	Conforming to IEC 60529			IP65, IP67		
Storage temperature			**°C**	-40…+70		
Operating temperature			**°C**	-30…+55		
Materials	Case			PBT		
	Lens			PMMA		
	Display			PC		
	Cable			–	–	PVC
Vibration resistance	Conforming to IEC 60068-2-6			Frequency range: 10 to 500 Hz Acceleration: 9 gn		
Shock resistance	Conforming to IEC 60068-2-27			Peak acceleration: 100 gn Duration of the pulse: 11 ms		
Indicator lights	Output state			Yellow LED		
	Stability			Green LED (XUM4, XUM5, XUM6, XUM8, XUM9)		
	Power on			Green LED (XUM2)		
Rated supply voltage			**V**	12 . 24 ⎓ with protection against reverse polarity		
Voltage limits (including ripple)			**V**	12 . 24 ⎓		
Current consumption, no-load			**mA**	< 20 max.		
Switching capacity			**mA**	100		
Voltage drop, closed state			**V**	≤ 2		
Maximum switching frequency			**Hz**	1000		
Delays	First-up		**ms**	< 100		
	Response		**ms**	0 5		
	Recovery		**ms**	0 5		

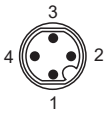
Photo-electric sensors

XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Wiring schemes

Thru-beam system

M8 and M12 connector - 4-pin IO-Link

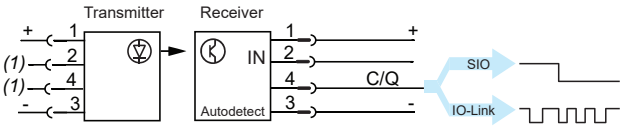


Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

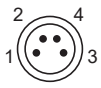
Autodetect PNP/NPN or by IO-Link

XUM2APYBM8, XUM2APYBM8R

XUM2APYBL03M12, XUM2APYBL03M12R



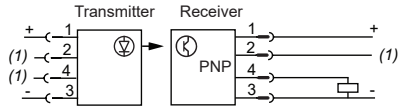
M8 and M12 connector - 4-pin



3 (-)
1 (+)
4 OUT/Output

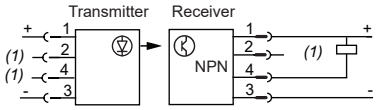
PNP

XUM2APXBM8, XUM2APXBL03M8, XUM2AKXBM8T, XUM2AKXBL03M8T, XUM2APXBM8R, XUM2APXBL03M8R XUM2APXBL03M12, XUM2AKXBL03M12T, XUM2APXBL03M12R



NPN

XUM2ANXBM8, XUM2ANXBL03M8, XUM2ANXBM8R , XUM2ANXBL03M8R XUM2ANXBL03M12, XUM2ANXBL03M12R

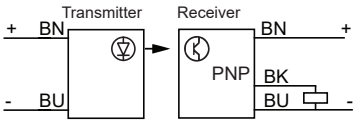


Pre-cabled - 3-wire

(-) BU (Blue)
(+) BN (Brown)
OUT/Output BK (Black)

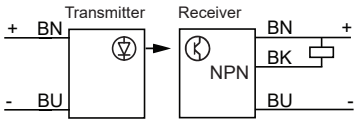
PNP

XUM2APXBL2, XUM2AKXBL2T, XUM2APXBL2R



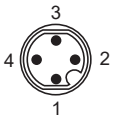
NPN

XUM2ANXBL2, XUM2ANXBL2R



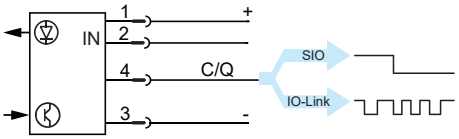
Polarised reflex, background suppression and diffuse systems

M8 and M12 connector - 4-pin IO-Link

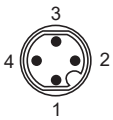


Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

XUM●APYBL03M12, XUM●APYBM8



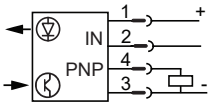
M8 and M12 connector - 4-pin



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)

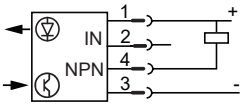
PNP

XUM●APXBL03M12, XUM●APXBM8, XUM●APXBL03M8



NPN

XUM●ANXBL03M12

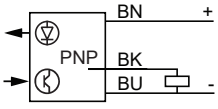


Pre-cabled - 3-wire

(-) BU (Blue)
(+) BN (Brown)
OUT/Output BK (Black)

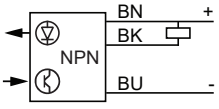
PNP

XUM●APXBL2



NPN

XUM●ANXBL2



(1) Not connected.

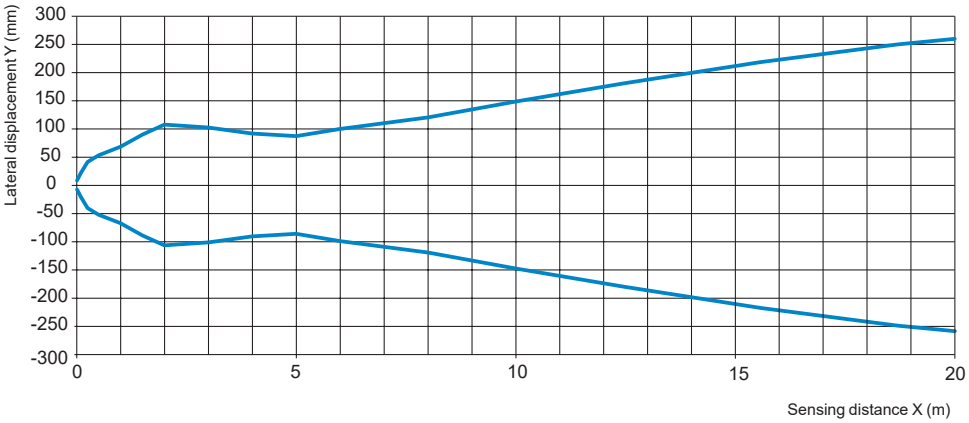
Photo-electric sensors

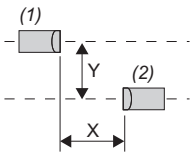
XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Detection curves

Thru-beam system: XUM2

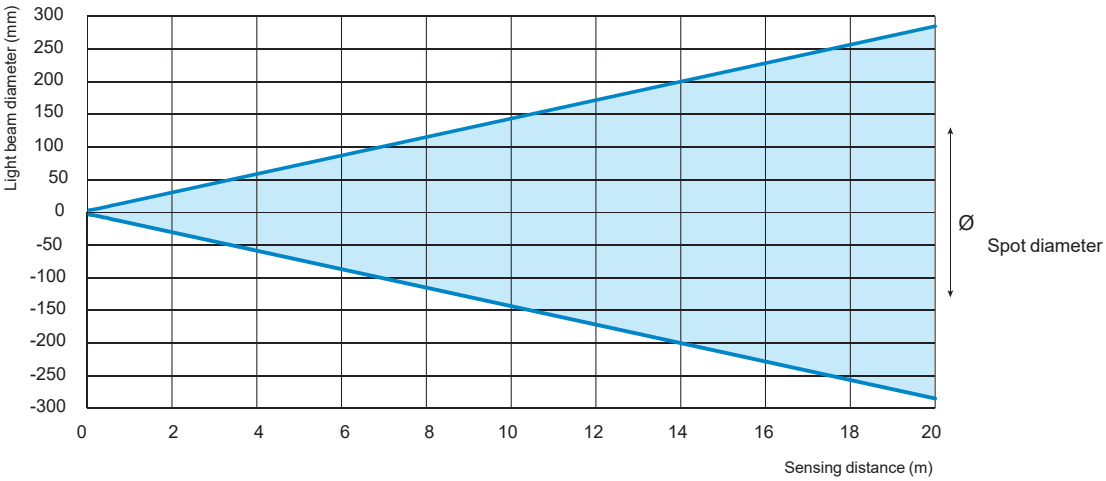
Lateral displacement





(1): Transmitter
(2): Receiver

Light beam diameter



Excess gain

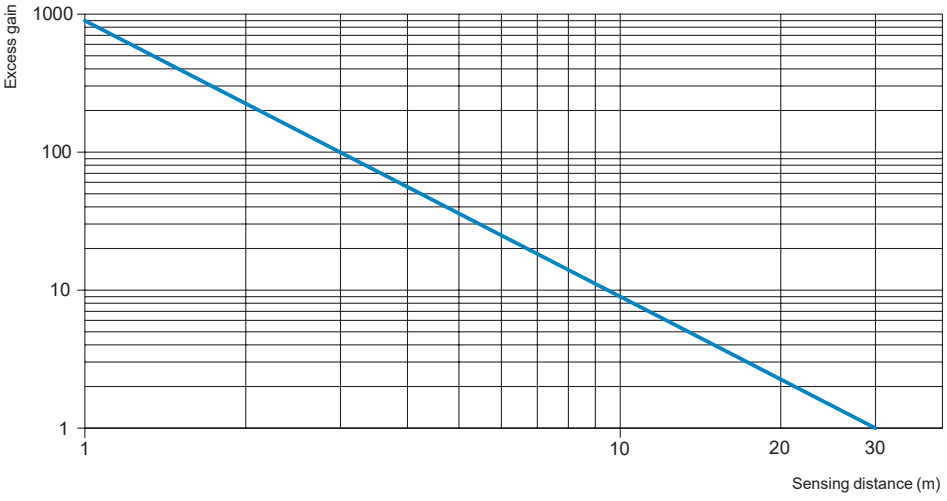


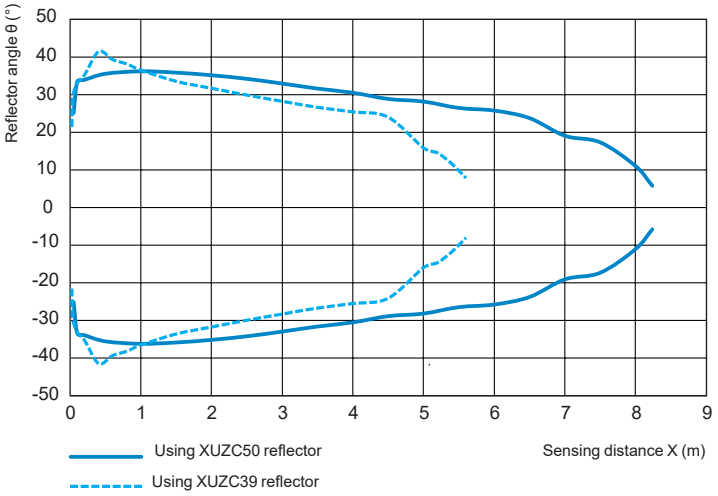
Photo-electric sensors

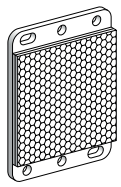
XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Detection curves

Polarised reflex system: XUM9

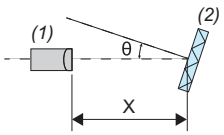
Reflector angle





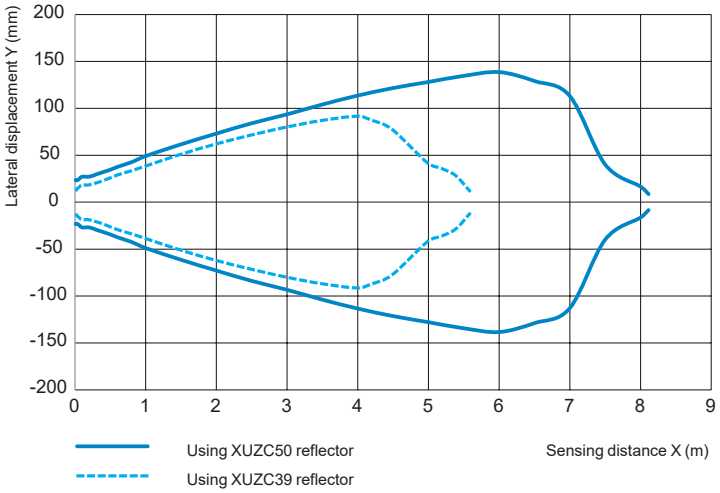
XUZC50

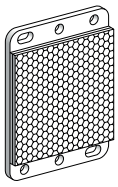
XUZC39



(1): Sensor
(2): Reflector
θ: Reflector angle (°)
X: Sensing distance (m)

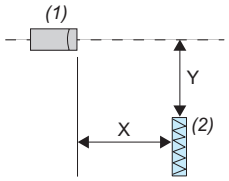
Lateral displacement





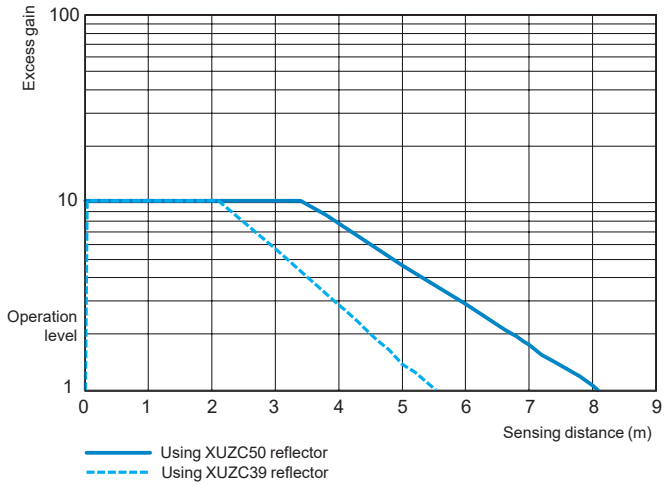
XUZC50

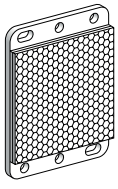
XUZC39



(1): Sensor
(2): Reflector
Y: Lateral displacement (mm)
X: Sensing distance (m)

Excess gain





XUZC50

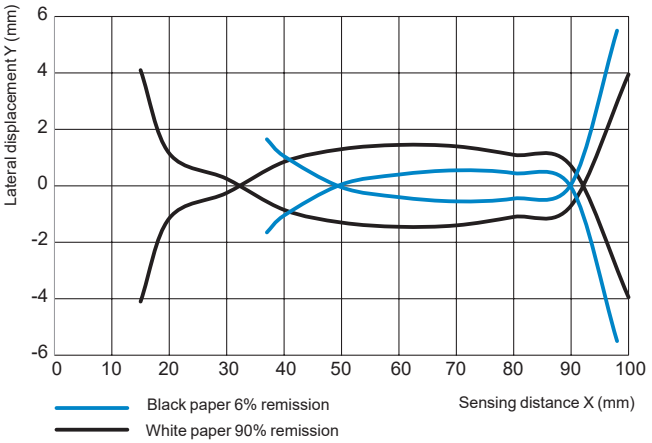
XUZC39

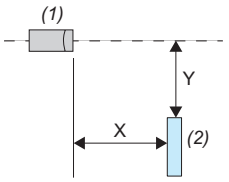
Photo-electric sensors
XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Detection curves (continued)

Background suppression system: XUM8

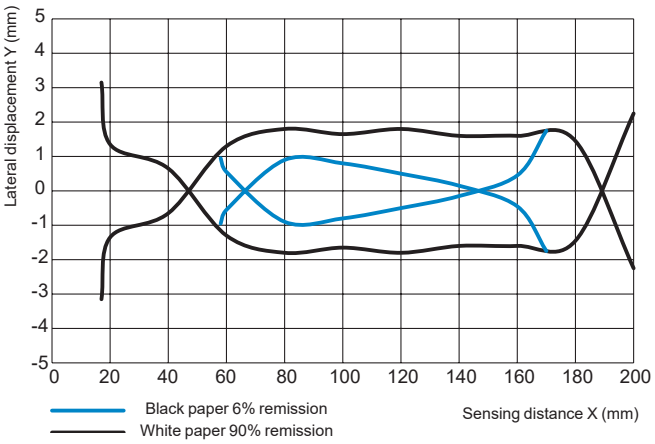
Lateral displacement (preset 100 mm)

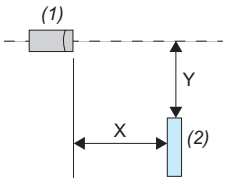




(1): Sensor
(2): Object (200 mm square white and black mat paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

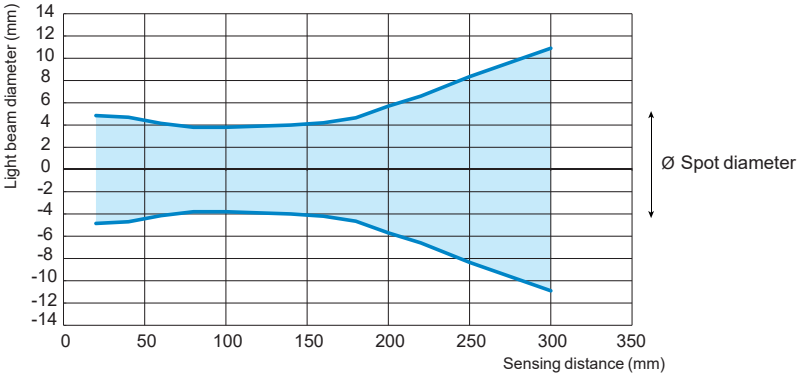
Lateral displacement (preset 200 mm)



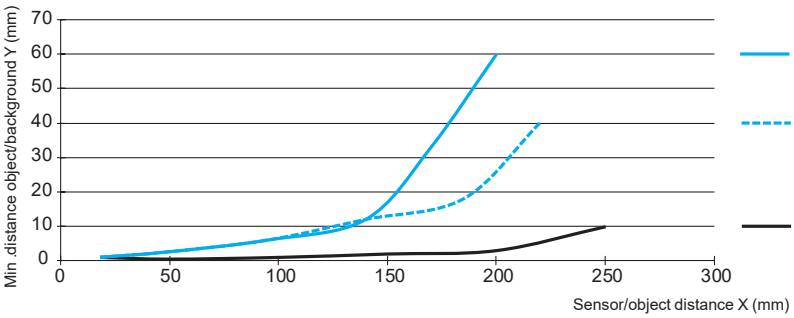


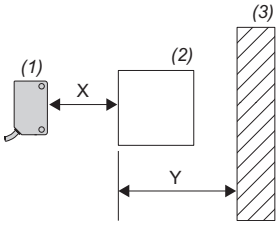
(1): Sensor
(2): Object (200 mm square white and black mat paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

Light beam diameter



Minimum distance between the object to be detected and a white background





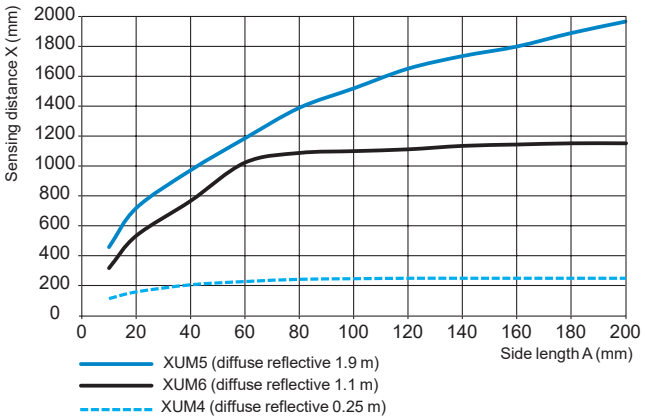
(1): Sensor
(2): Object
(3): Background
X: Sensor/object distance (mm)
Y: Min .distance object/ background (mm)

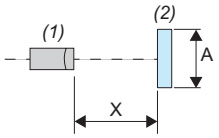
Photo-electric sensors
XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Detection curves (continued)

Diffuse system: XUM4, XUM5 and XUM6

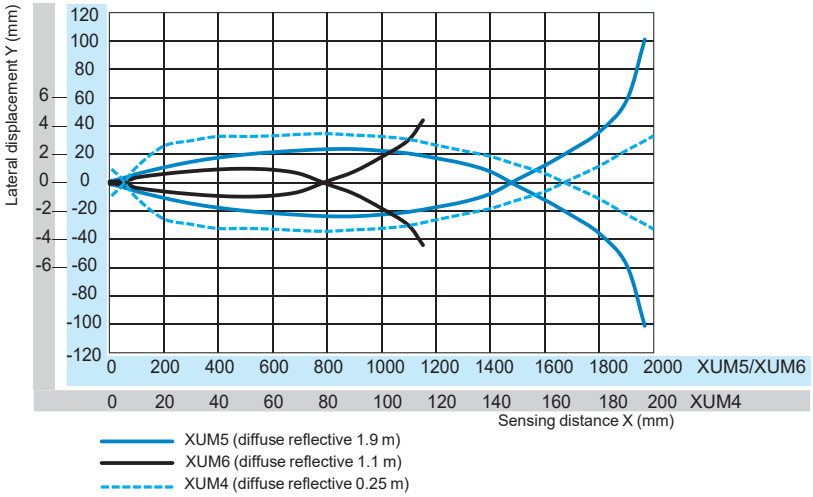
Object size/sensing distance

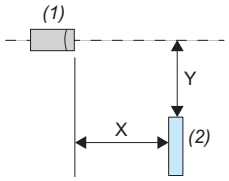




(1): Sensor
(2): Object (white mat paper of A mm square)
A: Side length (mm)
X: Sensing distance (mm)

Lateral displacement





(1): Sensor
(2): Object (200 x 200 mm square white paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

Excess gain

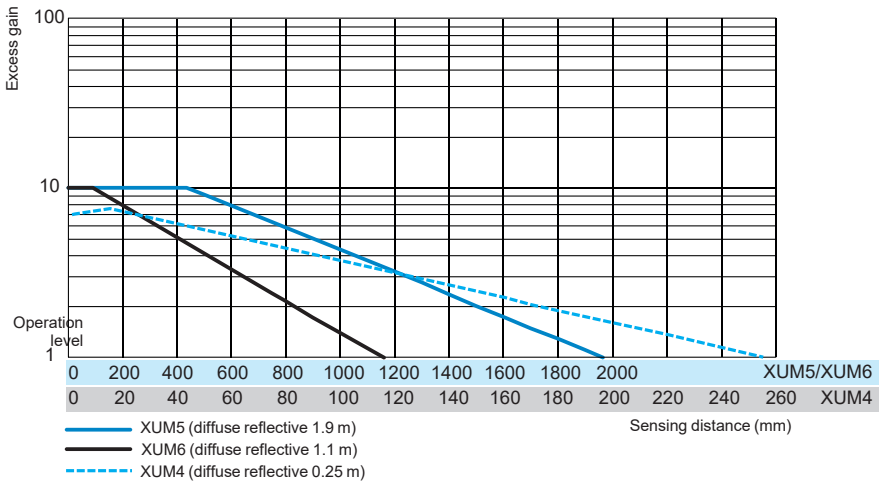


Photo-electric sensors

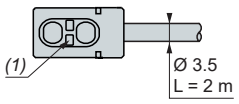
XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Thru-beam system

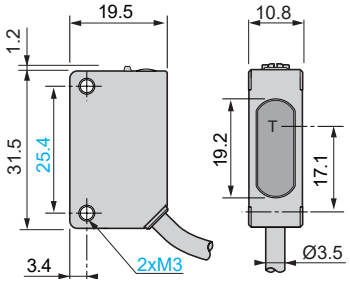
Pre-cabled and pigtail versions

Transmitter

Description - XUM2A●XBL2



Dimensions - XUM2A●XBL2

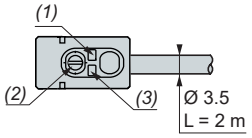


(1) Power ON indicator (green)

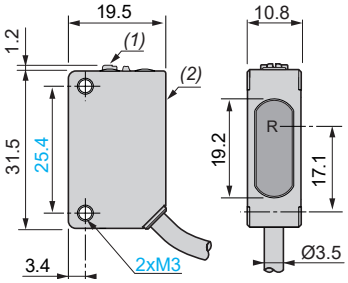
T: Transmission

Receiver

Description - XUM2A●XBL2



Dimensions - XUM2A●XBL2



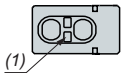
(1) Output indicator (yellow)
(2) Setting potentiometer (sensitivity)
(3) Power ON indicator (green)

R: Reception
(1) Setting potentiometer (sensitivity)
(2) Setting potentiometer (output)

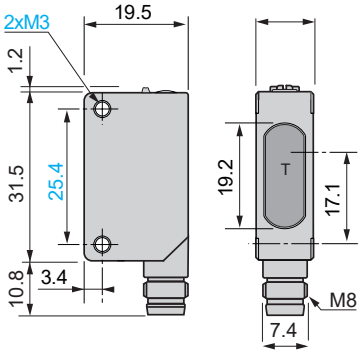
M8 connector version

Transmitter

Description - XUM2A●XBM8

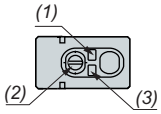


Dimensions - XUM2A●XBM8

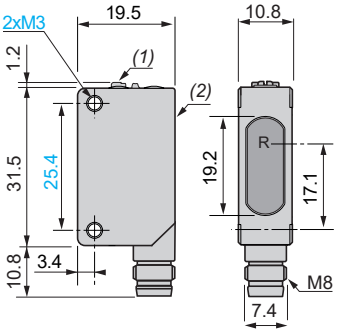


Receiver

Description - XUM2A●XBM8



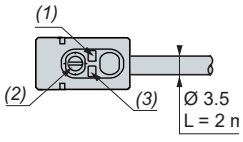
Dimensions - XUM2A●XBM8



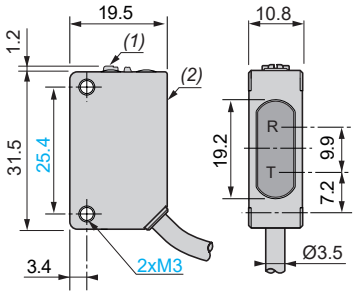
Polarised reflex system

Pre-cabled and pigtail versions

Description - XUM9A●XBL2

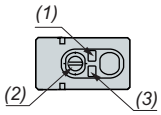


Dimensions - XUM9A●XBL2

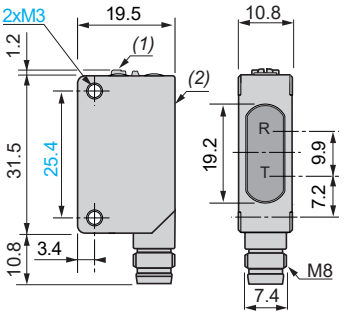


M8 connector version

Description - XUM9A●XBM8



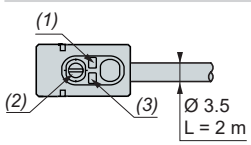
Dimensions - XUM9A●XBM8



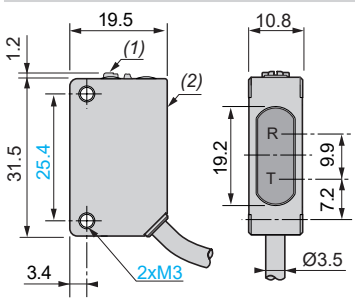
Background suppression system

Pre-cabled version

Description - XUM8A●XBL2

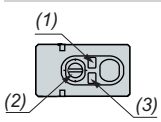


Dimensions - XUM8A●XBL2



M8 connector version

Description - XUM8A●XBM8



Dimensions - XUM8A●XBM8

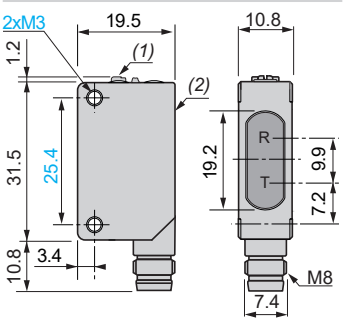


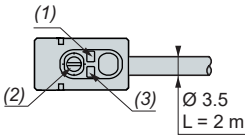
Photo-electric sensors

XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Diffuse system

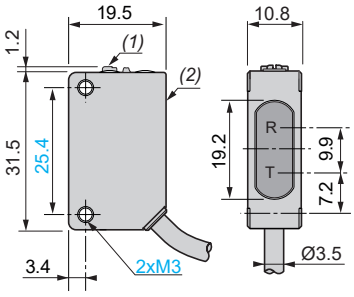
Pre-cabled and pigtail versions

Description - XUM5A●XBL2, XUM6A●XBL2, XUM4A●XBL2



(1) Output indicator (yellow)
(2) Setting potentiometer (sensitivity)
(3) Stability indicator (green)

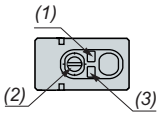
Dimensions - XUM5A●XBL2, XUM6A●XBL2, XUM4A●XBL2



R: Reception
T: Transmission
(1) Setting potentiometer (sensitivity)
(2) Setting potentiometer (output)

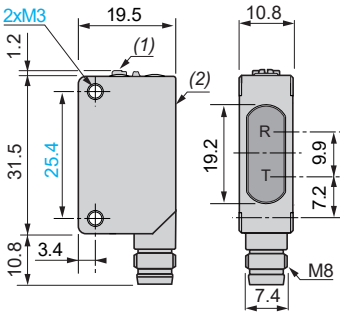
M8 connector version

Description - XUM5A●XBM8, XUM6A●XBM8, XUM4A●XBM8



(1) Output indicator (yellow)
(2) Setting potentiometer (sensitivity)
(3) Stability indicator (green)

Dimensions - XUM5A●XBM8, XUM6A●XBM8, XUM4A●XBM8

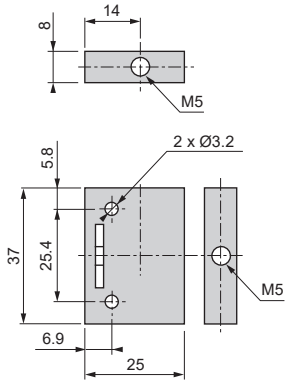


R: Reception
T: Transmission
(1) Setting potentiometer (sensitivity)
(2) Setting potentiometer (output)

Accessories

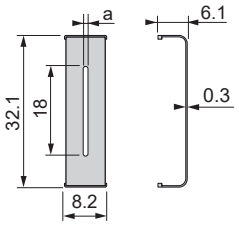
Setting-up accessory

XUZASM05

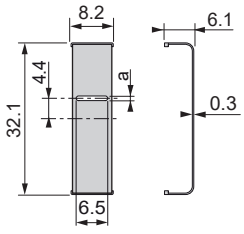


Diaphragms

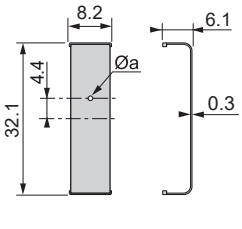
XUZDVM●●



XUZDHM●●



XUZDRM●●



Reference	a (mm)
XUZDVM05	0 5
XUZDVM10	1
XUZDVM20	2
XUZDHM05	0 5
XUZDHM10	1
XUZDHM20	2
XUZDRM05	Ø 0 5
XUZDRM10	Ø 1
XUZDRM20	Ø 2

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, plastic
Four-wire DC, solid-state output
Wire setting for NO/NC

XUB2AKXNM12T

XUB2AKXWM12T

XUB2AKXNL2T

XUB2AKXWL2T

XUB2APYNM12R
XUB2ANXNM12R
XUB2APXNM12R

XUB2APYWM12R
XUB2ANXWM12R
XUB2APXWM12R

XUB2ANXNL2R
XUB2APXNL2R

XUB2ANXWL2R
XUB2APXWL2R

Thru-beam system with adjustable sensitivity

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight kg
Transmitter *(1)*					
30 m/20 m Along case axis	–	–	Pre-cabled (L = 2 m)	**XUB2AKXNL2T**	0 095
			M12 connector (4-pin)	**XUB2AKXNM12T**	0 040
17 m/12 m 90° to case axis	–	–	Pre-cabled (L = 2 m)	**XUB2AKXWL2T**	0 095
			M12 connector (4-pin)	**XUB2AKXWM12T**	0 040
Receiver IO-Link					
30 m/20 m Along case axis	NO (Dark ON)/ NC (Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB2APYNM12R**	0 040
17 m/12 m 90° to case axis	NO (Dark ON)/ NC (Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB2APYWM12R**	0 040
Receiver					
30 m/20 m Along case axis	NO (Dark ON)/ NC (Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB2ANXNL2R**	0 095
			M12 connector (4-pin)	**XUB2ANXNM12R**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB2APXNL2R**	0 095
			M12 connector (4-pin)	**XUB2APXNM12R**	0 040
17 m/12 m 90° to case axis	NO (Dark ON)/ NC (Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB2ANXWL2R**	0 095
			M12 connector (4-pin)	**XUB2ANXWM12R**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB2APXWL2R**	0 095
			M12 connector (4-pin)	**XUB2APXWM12R**	0 040

Accessories

IO-Link Master *(2)*
See page 70 .

Fixing and other accessories
See page 74 .

Cabling accessories
See page 80 .

(1) All transmitters are compatible with the receivers listed below.
(2) Available 2nd quarter 2024.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, metal
Four-wire DC, solid-state output
Wire setting for NO/NC

XUB2BKXNM12T

XUB2BKXWM12T

XUB2BKXNL2T

XUB2BKXWL2T

XUB2BPYNM12R
XUB2BNXNM12R
XUB2BPXNM12R

XUB2BPYWM12R
XUB2BNXWM12R
XUB2BPXWM12R

XUB2BNXNL2R
XUB2BPXNL2R

XUB2BNXWL2R
XUB2BPXWL2R

Thru-beam system with adjustable sensitivity

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight kg
Transmitter *(1)*					
30 m/20 m Along case axis	–	–	Pre-cabled (L = 2 m)	**XUB2BKXNL2T**	0 095
			M12 connector (4-pin)	**XUB2BKXNM12T**	0 040
17 m/12 m 90° to case axis	–	–	Pre-cabled (L = 2 m)	**XUB2BKXWL2T**	0 095
			M12 connector (4-pin)	**XUB2BKXWM12T**	0 040
Receiver IO-Link					
30 m/20 m Along case axis	NO (Dark ON)/ NC (Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB2BPYNM12R**	0 040
17 m/12 m 90° to case axis	NO (Dark ON)/ NC (Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB2BPYWM12R**	0 040
Receiver					
30 m/20 m Along case axis	NO (Dark ON)/ NC (Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB2BNXNL2R**	0 095
			M12 connector (4-pin)	**XUB2BNXNM12R**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB2BPXNL2R**	0 095
			M12 connector (4-pin)	**XUB2BPXNM12R**	0 040
17 m/12 m 90° to case axis	NO (Dark ON)/ NC (Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB2BNXWL2R**	0 095
			M12 connector (4-pin)	**XUB2BNXWM12R**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB2BPXWL2R**	0 095
			M12 connector (4-pin)	**XUB2BPXWM12R**	0 040

Accessories

IO-Link Master *(2)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) All transmitters are compatible with the receivers listed below.
(2) Available 2nd quarter 2024.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, plastic
Four-wire DC, solid-state output
Wire setting for NO/NC

Apollo_CP0720004

XUB●APYNM12
XUB●ANXNM12
XUB●APXNM12

Apollo_CP0720008

XUB●APYWM12
XUB●ANXWM12
XUB●APXWM12

Apollo_CP0720002

XUB●ANXNL2
XUB●APXNL2

Apollo_CP0720006

XUB●ANXWL2
XUB●APXWL2

Diffuse system with adjustable sensitivity, IO-Link

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight kg
Long range, red LED emission					
1 m/0.7 m Along case axis	NO (Light ON)/ NC (Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB5APYNM12**	0 040
Medium range, red LED emission					
0.6 m/0.42 m Along case axis	NO (Light ON)/ NC (Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB6APYNM12**	0 040
0.5 m/0.35 m 90° to case axis	NO (Light ON)/ NC (Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB6APYWM12**	0 040

Diffuse system with adjustable sensitivity

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight kg
Long range, red LED emission					
1 m/0.7 m Along case axis	NO (Light ON)/ NC (Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB5ANXNL2**	0 095
			M12 connector (4-pin)	**XUB5ANXNM12**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB5APXNL2**	0 095
			M12 connector (4-pin)	**XUB5APXNM12**	0 040
Medium range, red LED emission					
0.6 m/0.42 m Along case axis	NO (Light ON)/ NC (Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB6ANXNL2**	0 095
			M12 connector (4-pin)	**XUB6ANXNM12**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB6APXNL2**	0 095
			M12 connector (4-pin)	**XUB6APXNM12**	0 040
0.5 m/0.35 m 90° to case axis	NO (Light ON)/ NC (Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB6ANXWL2**	0 095
			M12 connector (4-pin)	**XUB6ANXWM12**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB6APXWL2**	0 095
			M12 connector (4-pin)	**XUB6APXWM12**	0 040

Accessories

IO-Link Master *(1)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 2nd quarter 2024.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, metal
Four-wire DC, solid-state output
Wire setting for NO/NC

XUB●BPYNM12
XUB●BNXNM12
XUB●BPXNM12

XUB6BPYWM12
XUB6BNXWM12
XUB6BPXWM12

XUB●BNXNL2
XUB●BPXNL2

XUB6BNXWL2
XUB6BPXWL2

Diffuse system with adjustable sensitivity, IO-Link

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight kg
Long range, red LED emission					
1 m/0.7 m Along case axis	NO (Light ON)/ NC (Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB5BPYNM12**	0 040
Medium range, red LED emission					
0.6 m/0.42 m Along case axis	NO (Light ON)/ NC (Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB6BPYNM12**	0 040
0.5 m/0.35 m 90° to case axis	NO (Light ON)/ NC (Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB6BPYWM12**	0 040

Diffuse system with adjustable sensitivity

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight kg
Long range, red LED emission					
1 m/0.7 m Along case axis	NO (Light ON)/ NC (Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB5BNXNL2**	0 095
			M12 connector (4-pin)	**XUB5BNXNM12**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB5BPXNL2**	0 095
			M12 connector (4-pin)	**XUB5BPXNM12**	0 040
Medium range, red LED emission					
0.6 m/0.42 m Along case axis	NO (Light ON)/ NC (Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB6BNXNL2**	0 095
			M12 connector (4-pin)	**XUB6BNXNM12**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB6BPXNL2**	0 095
			M12 connector (4-pin)	**XUB6BPXNM12**	0 040
0.5 m/0.35 m 90° to case axis	NO (Light ON)/ NC (Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB6BNXWL2**	0 095
			M12 connector (4-pin)	**XUB6BNXWM12**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB6BPXWL2**	0 095
			M12 connector (4-pin)	**XUB6BPXWM12**	0 040

Accessories

IO-Link Master *(1)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 2nd quarter 2024.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, plastic
Four-wire DC, solid-state output
Wire setting for NO/NC

Apollo_CP0720004

XUB9APYNM12
XUB9ANXNM12
XUB9APXNM12

Apollo_CP0720008

XUB9APYWM12
XUB9ANXWM12
XUB9APXWM12

Polarised reflex system with adjustable sensitivity, IO-Link

Plastic, red LED emission

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight kg
7 m/5 m Along case axis	NO (Dark ON)/ NC (Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB9APYNM12**	0 040
5.5 m/4 m 90° to case axis	NO (Dark ON)/ NC (Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB9APYWM12**	0 040

Apollo_CP0720002

XUB9ANXNL2
XUB9APXNL2

Apollo_CP0720006

XUB9ANXWL2
XUB9APXWL2

Polarised reflex system with adjustable sensitivity

Plastic, red LED emission

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight kg
7 m/5 m Along case axis	NO (Dark ON)/ NC (Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB9ANXNL2**	0 095
			M12 connector (4-pin)	**XUB9ANXNM12**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB9APXNL2**	0 095
			M12 connector (4-pin)	**XUB9APXNM12**	0 040
5.5 m/4 m 90° to case axis	NO (Dark ON)/ NC (Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB9ANXWL2**	0 095
			M12 connector (4-pin)	**XUB9ANXWM12**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB9APXWL2**	0 095
			M12 connector (4-pin)	**XUB9APXWM12**	0 040

Accessories

IO-Link Master *(1)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 2nd quarter 2024.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, metal
Four-wire DC, solid-state output
Wire setting for NO/NC

Apollo_CP0720012

XUB9BPYNM12
XUB9BNXNM12
XUB9BPXNM12

Apollo_CP0720016

XUB9BPYWM12
XUB9BNXWM12
XUB9BPXWM12

Polarised reflex system with adjustable sensitivity, IO-Link

Metal, red LED emission

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight kg
7 m/5 m Along case axis	NO (Dark ON)/ NC (Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB9BPYNM12**	0 040
5.5 m/4 m 90° to case axis	NO (Dark ON)/ NC (Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB9BPYWM12**	0 040

Apollo_CP0720010

XUB9BNXNL2
XUB9BPXNL2

Apollo_CP0720014

XUB9BNXWL2
XUB9BPXWL2

Polarised reflex system with adjustable sensitivity

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight kg
Metal, red LED emission					
7 m/5 m Along case axis	NO (Dark ON)/ NC (Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB9BNXNL2**	0 095
			M12 connector (4-pin)	**XUB9BNXNM12**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB9BPXNL2**	0 095
			M12 connector (4-pin)	**XUB9BPXNM12**	0 040
5.5 m/4 m 90° to case axis	NO (Dark ON)/ NC (Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB9BNXWL2**	0 095
			M12 connector (4-pin)	**XUB9BNXWM12**	0 040
		PNP	Pre-cabled (L = 2 m)	**XUB9BPXWL2**	0 095
			M12 connector (4-pin)	**XUB9BPXWM12**	0 040

Accessories

IO-Link Master *(1)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 2nd quarter 2024.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, plastic
Four-wire DC, solid-state output
Wire setting for NO/NC

Characteristics

Sensor type				XUB2APY●M12R, XUB2BPY●M12R, XUB2A●X●M12T, XUB2A●X●M12R, XUB2B●X●M12T, XUB2B●X●M12R, XUB5APYNM12, XUB5BPYNM12, XUB5A●X●M12, XUB5B●X●M12, XUB6APY●M12, XUB6APY●M12, XUB6A●X●M12, XUB6B●X●M12, XUB9APY●M12, XUB9BPY●M12 XUB9A●X●M12, XUB9B●X●M12	XUB2A●X●L2T, XUB2A●X●L2R, XUB2B●X●L2T, XUB2B●X●L2R, XUB5A●X●L2, XUB5B●X●L2, XUB6A●X●L2, XUB6B●X●L2, XUB9A●X●L2, XUB9B●X●L2
Product certifications				CE, UKCA, cULus	
Connection	Connector			M12	–
	Pre-cabled			–	Length: 2 m
Sensing distance Excess gain = 1: maximum sensing distance Excess gain = 2 : nominal sensing distance	Thru-beam system **XUB2**	Along case axis (axial)	**m**	30 (with excess gain = 1) 20 (with excess gain = 2)	
		90° to case axis (radial)	**m**	17 (with excess gain = 1) 12 (with excess gain = 2)	
	Diffuse system **XUB5** (using a white paper 200 x 200 mm)	Along case axis (axial)	**m**	1 (with excess gain = 1) 0.7 (with excess gain = 2)	
	Diffuse system **XUB6** (using a white paper 200 x 200 mm)	Along case axis (axial)	**m**	0.6 (with excess gain = 1) 0.42 (with excess gain = 2)	
		90° to case axis (radial)	**m**	0.5 (with excess gain = 1) 0.35 (with excess gain = 2)	
	Polarised reflex system **XUB9** (using a 50 x 50 mm reflector XUZC50)	Along case axis	**m**	7 (with excess gain = 1) 5 (with excess gain = 2)	
		90° to case axis	**m**	5.5 (with excess gain = 1) 4 (with excess gain = 2)	
Blind zone			**mm**	0 (white object and potentiometer max.)	
Sensing distance setting				Potentiometer 1 turn (+/- 220 degrees)	
Colour of detection light beam				Red (except XUB2 transmitter)	
Output type				PNP/NPN (or autodetect PNP/NPN with IO-Link)	
Hysteresis				2% < H < 20% at Sn	
Degree of protection	Conforming to IEC 60529			IP65, IP67	
	Conforming to DIN 40050-9			IP69K (M12 connector versions only)	
Artificial optical radiation	Conforming to IEC 62471			Class 0 (risk exempt)	
Radiated disturbances emissions	Conforming to EN 55011/CISPR 1			Class A	
Storage temperature			**°C**	-40…+70	
Operating temperature			**°C**	-30…+55	
Materials	Case			XUB2A, XUB5A, XUB6A and XUB9A: PBT/PC XUB2B, XUB5B, XUB6B and XUB9B: brass	
	Back cap			MABS	
	Potentiometer screw			PBT	
	Lens cover			PMMA	
	Cable			–	PVC
Vibration resistance	Conforming to IEC 60068-2-6			Frequency range: 10 to 55 Hz Acceleration: 7 gn	
Shock resistance	Conforming to IEC 60068-2-27			Peak acceleration: 30 gn Duration of the pulse: 11 ms	
Rated supply voltage			**V**	12 . 24 ⎓ with protection against reverse polarity	
Voltage limits (including ripple)			**V**	10 . 30 ⎓	
Current consumption, no-load			**mA**	< 20/IO-Link: < 30	
Switching capacity			**mA**	100	
Voltage drop, closed state			**V**	≤ 2	
Maximum switching frequency			**Hz**	1000	
Delays	First-up		**ms**	< 100/IO-Link : < 300	
	Response		**ms**	0.5 max.	
	Recovery		**ms**	0.5 max	

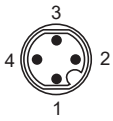
Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Wiring schemes

Thru-beam system

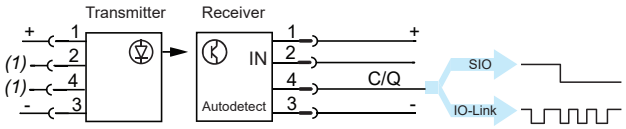
M12 connector - 4 pins, plastic and metal, IO-Link



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

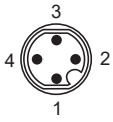
Autodetect PNP/NPN or by IO-Link

XUB2●PYNM12R, XUB2●PYWM12R, XUB2●KXNM12T, XUB2●KXWM12T



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

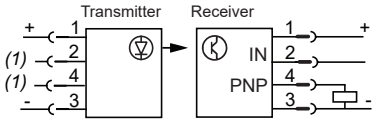
M12 connector - 4 pins, plastic and metal



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)

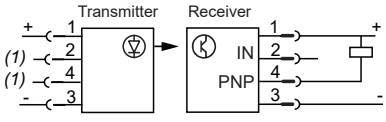
PNP

XUB2●PXNM12R, XUB2●PXWM12R, XUB2●KXNM12T, XUB2●KXWM12T



NPN

XUB2●NXNM12R, XUB2●NXWM12R, XUB2●KXNM12T, XUB2●KXWM12T

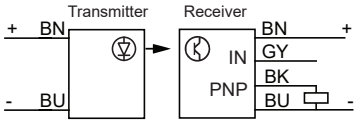


Pre-cabled - 4 wires, plastic and metal

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

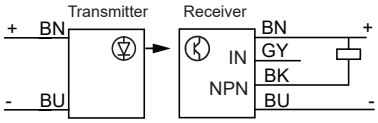
PNP

XUB2●PXNL2R, XUB2●APXWL2R, XUB2●KXNL2T, XUB2●KXWL2T



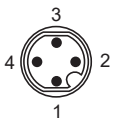
NPN

XUB2●NXNL2R, XUB2●NXWL2R, XUB2●KXNL2T, XUB2●KXWL2T



Diffuse system

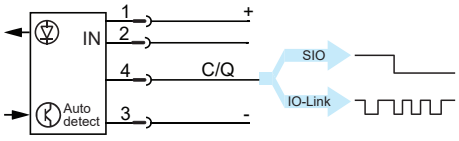
M12 connector - 4 pins, plastic and metal, IO-Link



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

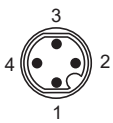
Autodetect PNP/NPN or by IO-Link

XUB5APYNM12, XUB6APYNM12, XUB6APYWM12, XUB5BPYNM12, XUB6BPYNM12, XUB6BPYWM12



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

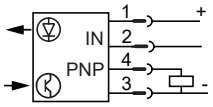
M12 connector - 4 pins, plastic and metal



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)

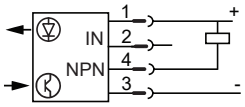
PNP

XUB5APXNM12, XUB6APXNM12, XUB6APXWM12, XUB5BPXNM12, XUB6BPXNM12, XUB6BPXWM12,



NPN

XUB5ANXNM12, XUB6ANXNM12, XUB6ANXWM12, XUB5BNXNM12, XUB6BNXNM12, XUB6BNXWM12

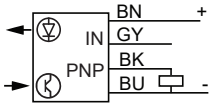


Pre-cabled - 4 wires, plastic and metal

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

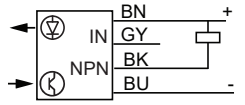
PNP

XUB5APXNL2, XUB6APXNL2, XUB6APXWL2, XUB5BPXNL2, XUB6BPXNL2, XUB6BPXWL2



NPN

XUB5ANXNL2, XUB6ANXNL2, XUB6ANXWL2, XUB5BNXNL2, XUB6BNXNL2, XUB6BNXWL2



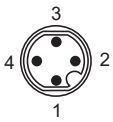
(1) Not connected.

Photo-electric sensors
XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Wiring schemes (continued)

Polarised reflex system

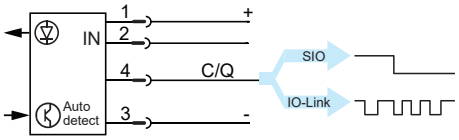
M12 connector - 4 pins, plastic and metal, IO-Link



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

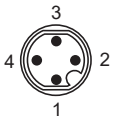
Autodetect PNP/NPN or by IO-Link

XUB9APYNM12, XUB9APYWM12, XUB9BPYNM12, XUB9BPYWM12



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

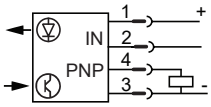
M12 connector - 4 pins, plastic and metal



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)

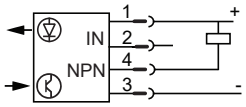
PNP

XUB9APXNM12, XUB9APXWM12, XUB9BPXNM12, XUB9BPXWM12



NPN

XUB9ANXNM12, XUB9ANXWM12, XUB9BNXNM12, XUB9BNXWM12

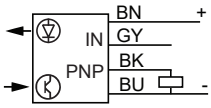


Pre-cabled - 4 wires, plastic and metal

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

PNP

XUB9APXNL2, XUB9BAPXWL2, XUB9BPXNL2, XUB9BPXWL2



NPN

XUB9ANXNL2, XUB9ANXWL2, XUB9BNXNL2, XUB9BNXWL2

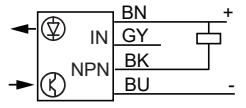


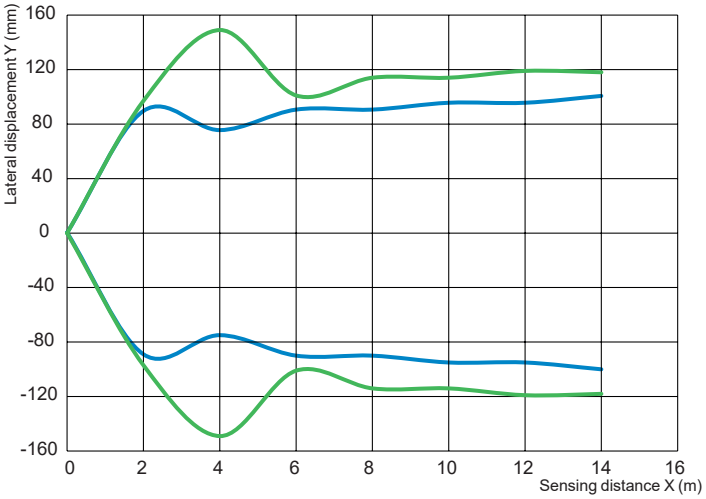
Photo-electric sensors

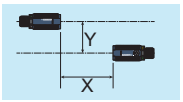
XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Detection curves

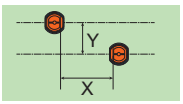
Thru-beam system: XUB2

Lateral displacement



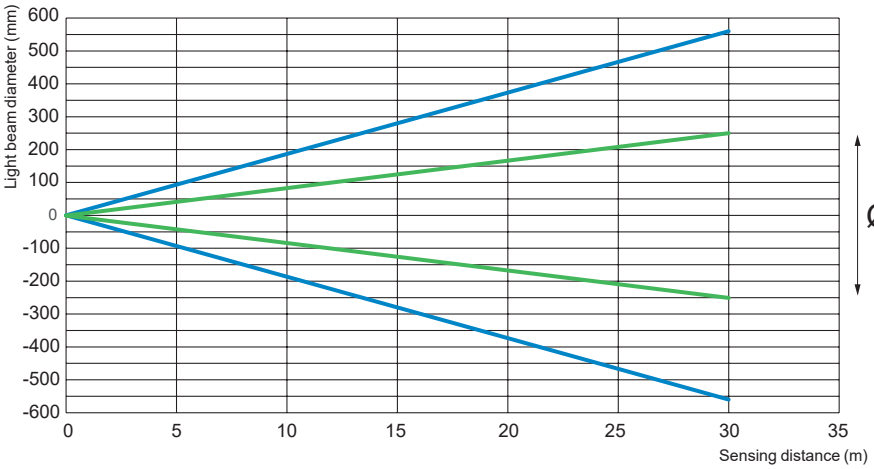


Line of sight: along case axis (axial)



Line of sight: 90° to case axis (radial)

Light beam diameter

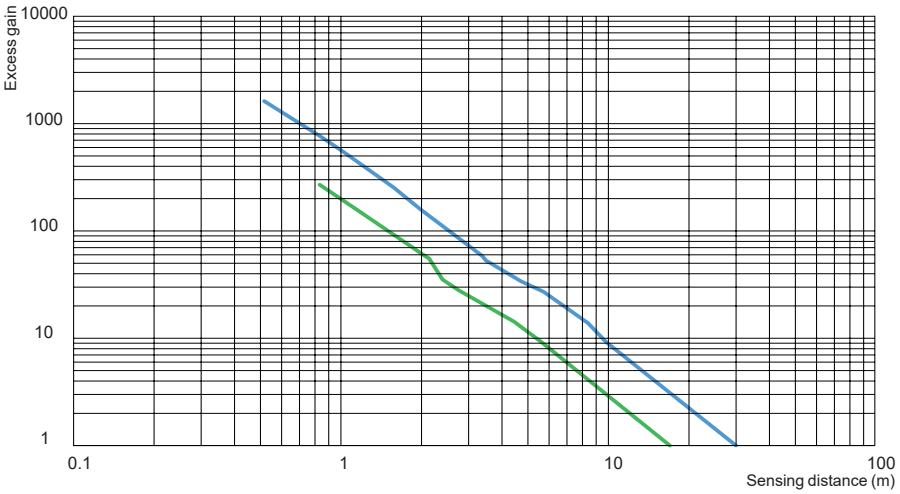


Ø Spot diameter

Line of sight: 90° to case axis (radial)

Line of sight: along case axis (axial)

Excess gain



Line of sight: 90° to case axis (radial)

Line of sight: Along case axis (axial)

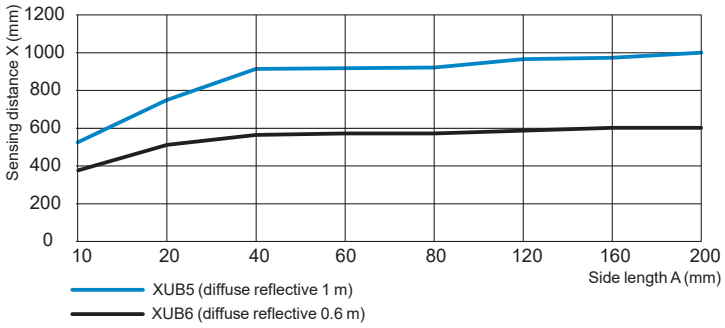
Photo-electric sensors

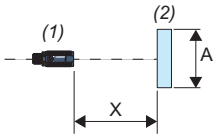
XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Detection curves *(continued)*

Diffuse system: XUB5 and XUB6

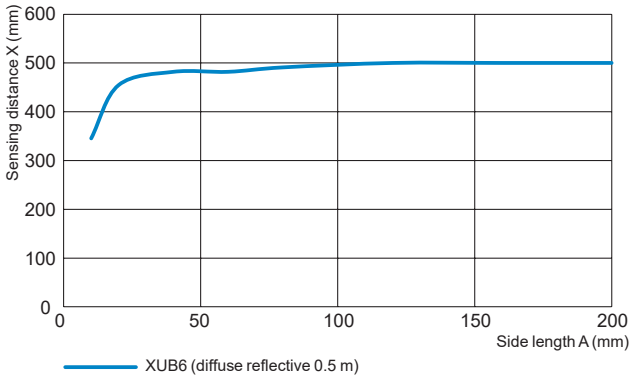
Minimum object size/sensing distance. Line of sight: along case axis (axial)

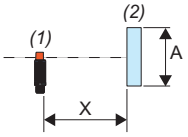




(1): Sensor
(2): Object (white matt paper of A mm square)
A: Side length (mm)
X: Sensing distance (mm)

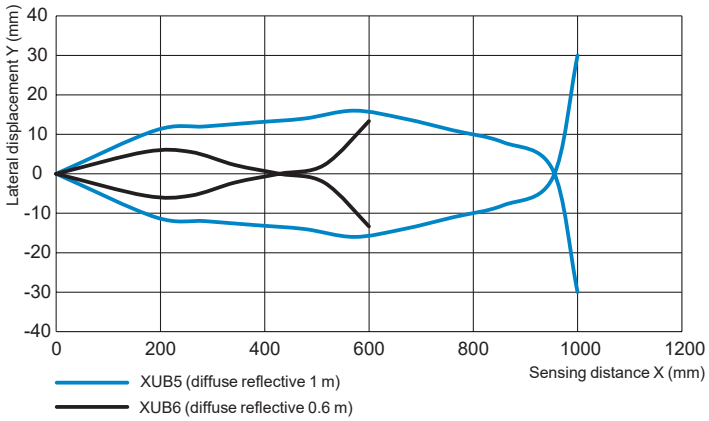
Minimum object size/sensing distance. Line of sight: 90° to case axis (radial)

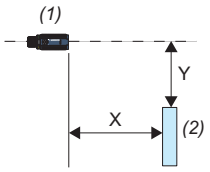




(1): Sensor
(2): Object (white matt paper of A mm square)
A: Side length (mm)
X: Sensing distance (mm)

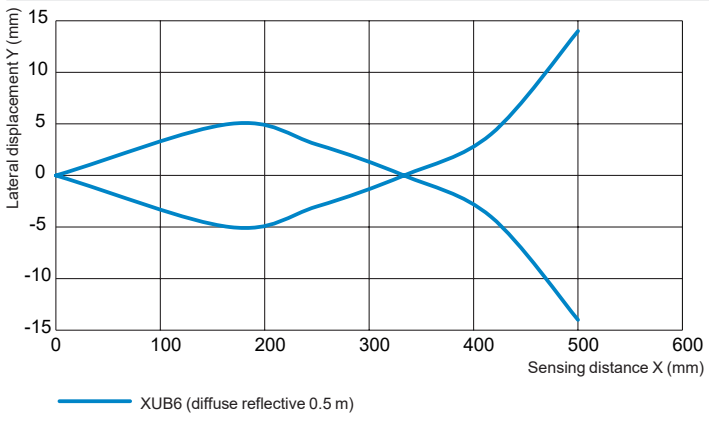
Lateral displacement. Line of sight: along case axis (axial)

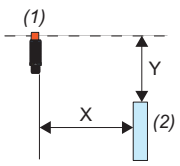




(1): Sensor
(2): Object (200 mm square white paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

Lateral displacement. Line of sight: 90° to case axis (radial)





(1): Sensor
(2): Object (200 mm square white paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

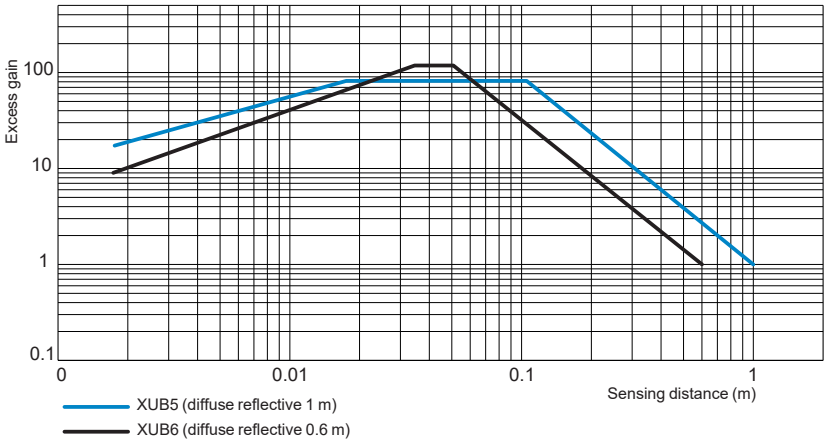
Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

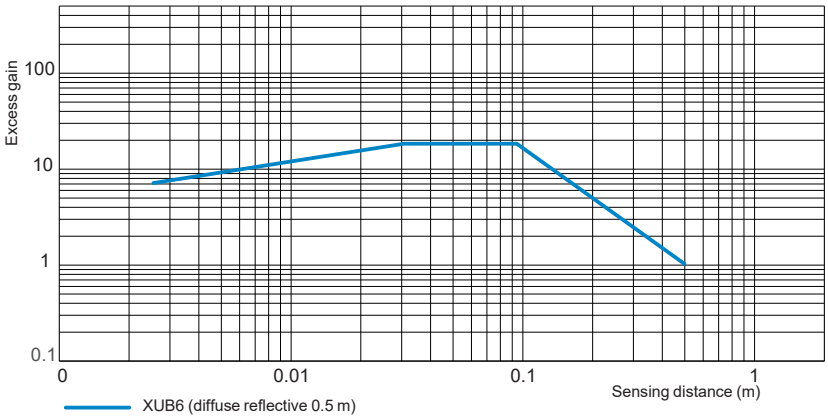
Detection curves *(continued)*

Diffuse system: XUB5 and XUB6 *(continued)*

Excess gain. Line of sight: along case axis (axial)

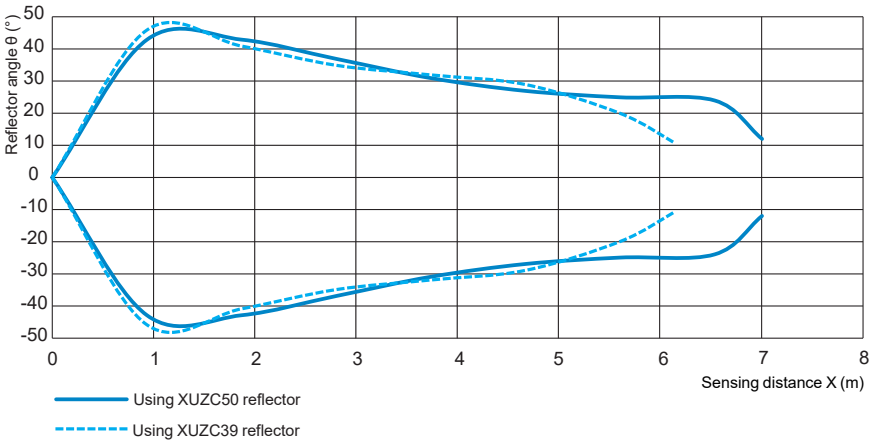


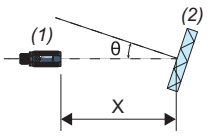
Excess gain. Line of sight: 90° to case axis (radial)



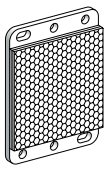
Polarised reflex system: XUB9

Reflector angle. Line of sight: along case axis (axial)





(1): Sensor
(2): Reflector
θ: Reflector angle (°)
X: Sensing distance (m)



XUZC50

XUZC39

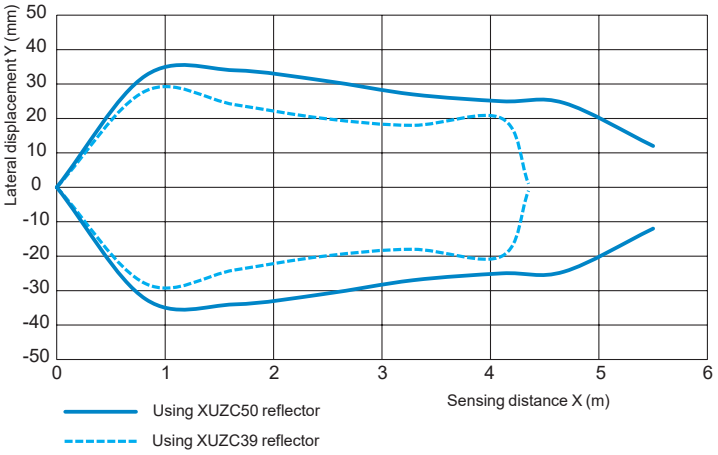
Photo-electric sensors

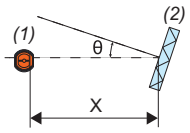
XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Detection curves *(continued)*

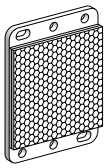
Polarised reflex system: XUB9 *(continued)*

Reflector angle. Line of sight: 90° to case axis (radial)





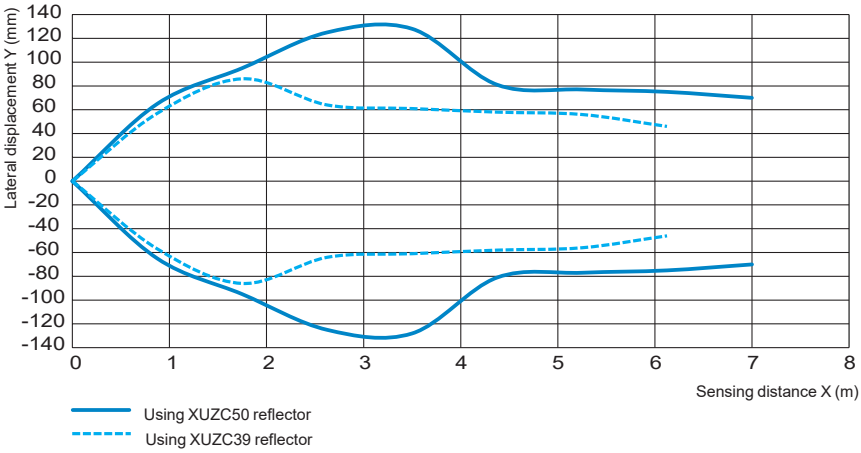
(1): Sensor
(2): Reflector
θ: Reflector angle (°)
X: Sensing distance (m)

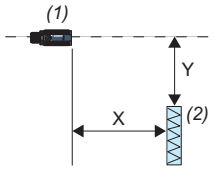


XUZC50

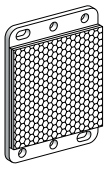
XUZC39

Lateral displacement. Line of sight: along case axis (axial)





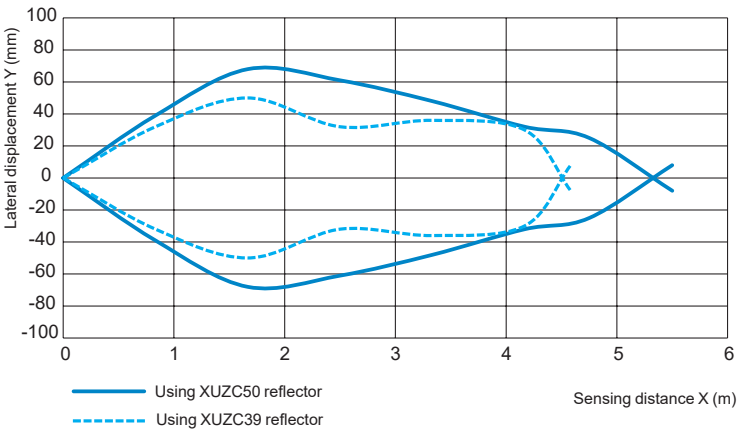
(1): Sensor
(2): Reflector
Y: Lateral displacement (mm)
X: Sensing distance (m)

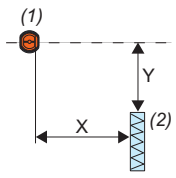


XUZC50

XUZC39

Lateral displacement. Line of sight: along case axis (axial)





(1): Sensor
(2): Reflector
Y: Lateral displacement (mm)
X: Sensing distance (m)

XUZC50

XUZC39

Detection curves *(continued)*

Polarised reflex system: XUB9 *(continued)*

Excess gain

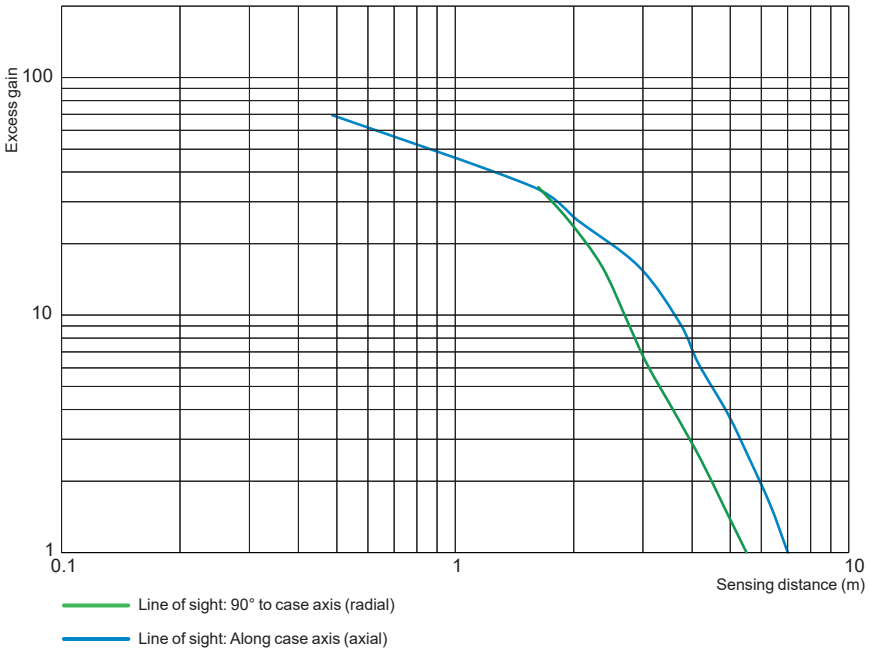


Photo-electric sensors

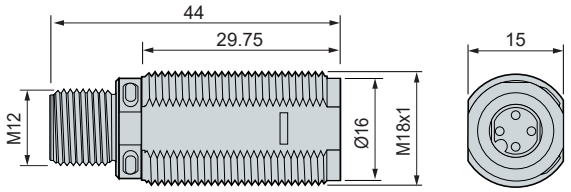
XUB general purpose, single mode function
Cylindrical miniature design 18, plastic
Four-wire DC, solid-state output
Wire setting for NO/NC

Thru-beam system, plastic, M12 connector version

Line of sight: along case axis (axial)

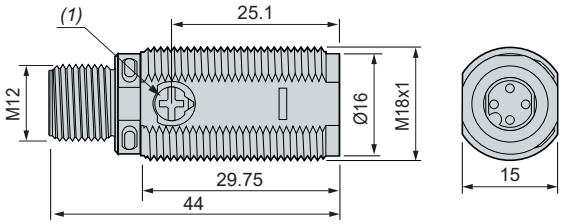
Transmitter

XUB2AKXNM12T



Receiver

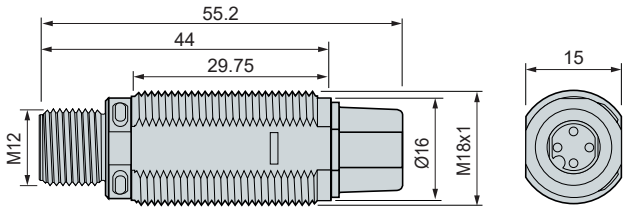
XUB2APYNM12R, XUB2ANXNM12R, XUB2APXNM12R



Line of sight: 90° to case axis (radial)

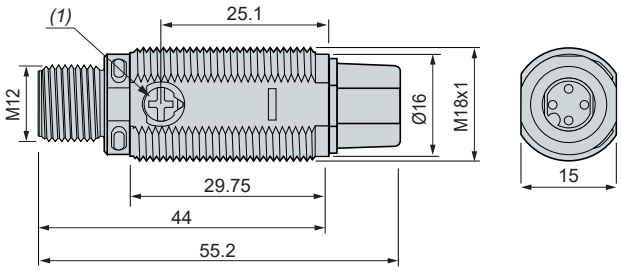
Transmitter

XUB2AKXWM12T



Receiver

XUB2APYWM12R, XUB2ANXWM12R, XUB2APXWM12R

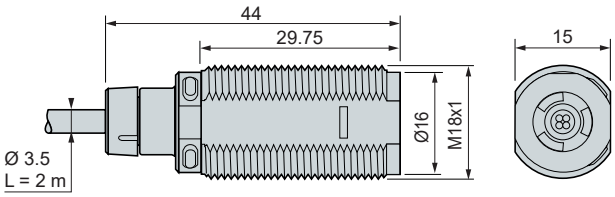


Thru-beam system, plastic, pre-cabled version

Line of sight: along case axis (axial)

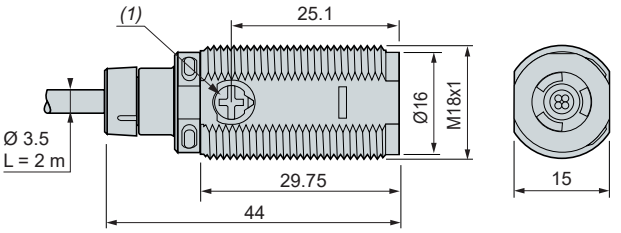
Transmitter

XUB2AKXNL2T



Receiver

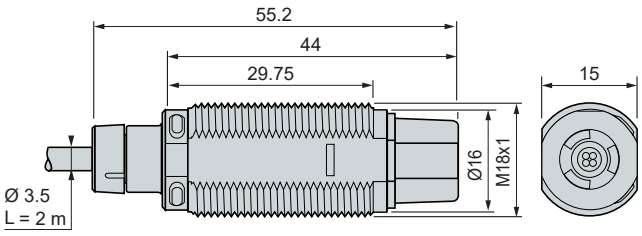
XUB2ANXNL2R, XUB2APXNL2R



Pre-cabled version, line of sight 90° to case axis

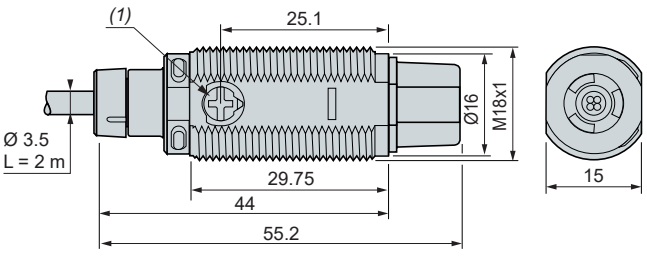
Transmitter

XUB2AKXWL2T



Receiver

XUB2ANXWL2R, XUB2APXWL2R



(1) Adjustment potentiometer (sensitivity).

Photo-electric sensors

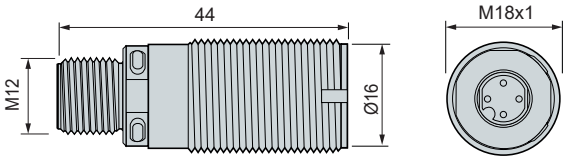
XUB general purpose, single mode function
Cylindrical miniature design 18, metal
Four-wire DC, solid-state output
Wire setting for NO/NC

Thru-beam system, metal, M12 connector version

Line of sight: along case axis (axial)

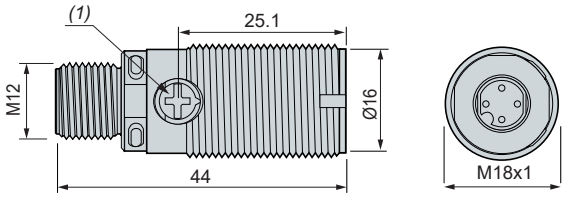
Transmitter

XUB2BKXNM12T



Receiver

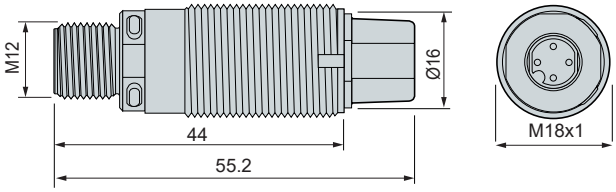
XUB2BPYNM12R, XUB2BNXNM12R, XUB2BPXNM12R



Line of sight: 90° to case axis (radial)

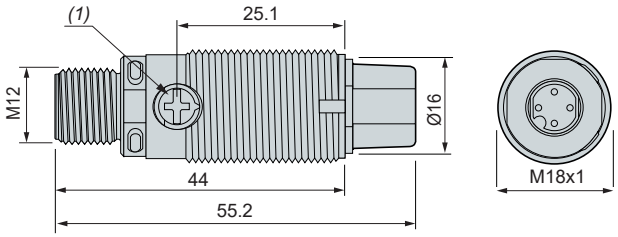
Transmitter

XUB2BKXWM12T



Receiver

XUB2BPYWM12R, XUB2BNXWM12R, XUB2BPXWM12R

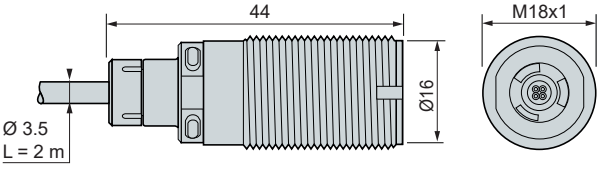


Thru-beam system, metal, pre-cabled version

Line of sight: along case axis (axial)

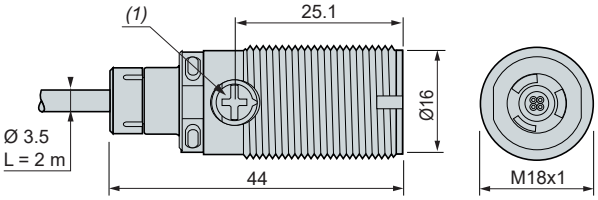
Transmitter

XUB2BKXNL2T



Receiver

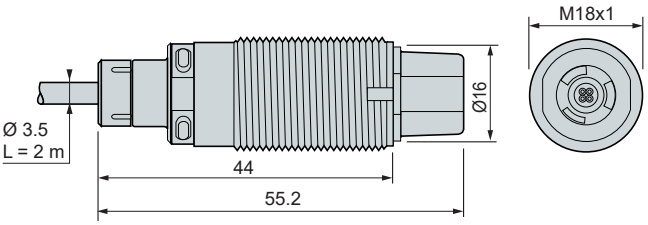
XUB2BNXNL2R, XUB2BPXNL2R



Line of sight: 90° to case axis (radial)

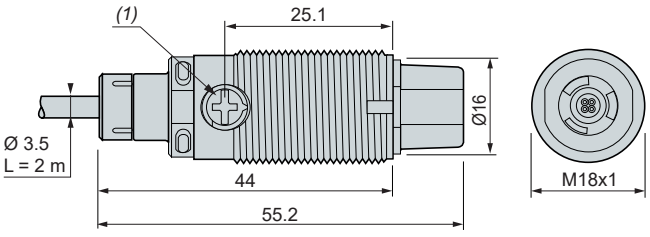
Transmitter

XUB2BKXWL2T



Receiver

XUB2BNXWL2R, XUB2BPXWL2R



(1) Adjustment potentiometer (sensitivity).

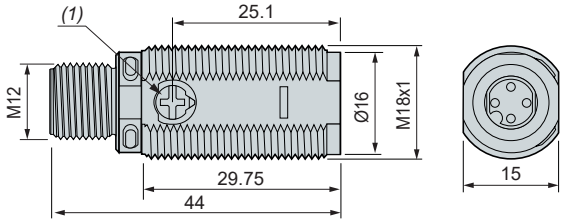
Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Diffuse system, plastic, M12 connector version

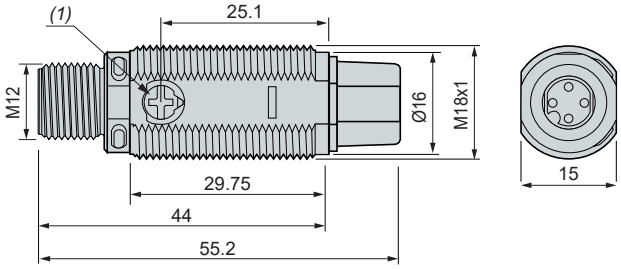
Line of sight: along case axis (axial)

XUB5ANXNM12, XUB6ANXNM12, XUB5APXNM12, XUB6APXNM12, XUB5APYNM12 and XUB6APYNM12



Line of sight: 90° to case axis (radial)

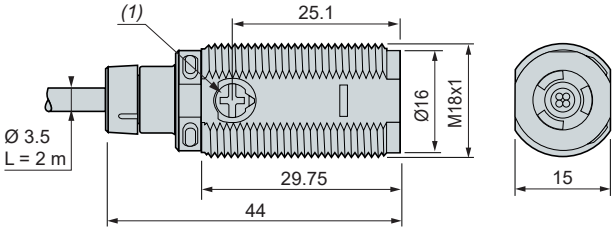
XUB6ANXWM12, XUB6APXWM12 and XUB6APYWM12



Diffuse system, plastic, pre-cabled version

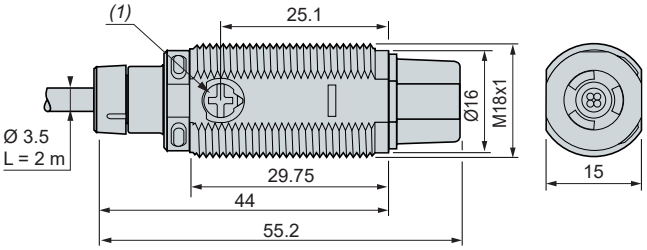
Line of sight: along case axis (axial)

XUB5ANXNL2, XUB6ANXNL2, XUB5APXNL2 and XUB6APXNL2



Line of sight: 90° to case axis (radial)

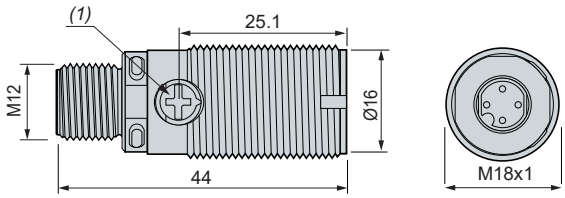
XUB6ANXWL2 and XUB6APXWL2



Diffuse system, metal, M12 connector version

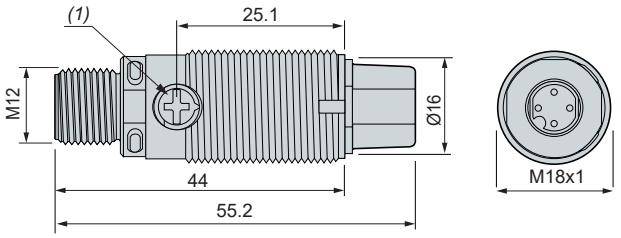
Line of sight: along case axis (axial)

XUB5BNXNM12, XUB6BNXNM12, XUB5BPXNM12, XUB6BPXNM12, XUB5BPYNM12 and XUB6BPYNM12



Line of sight: 90° to case axis (radial)

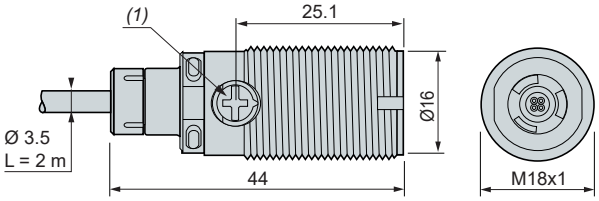
XUB6BNXWM12, XUB6BPXWM12 and XUB6BPYWM12



Diffuse system, metal, pre-cabled version

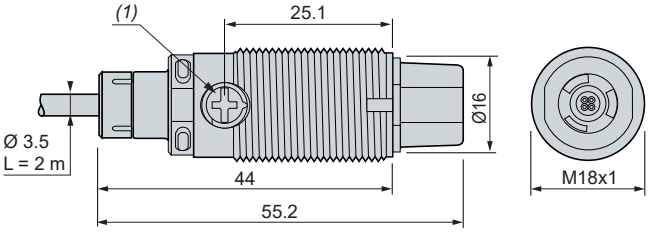
Line of sight: along case axis (axial)

XUB5BNXNL2, XUB6BNXNL2, XUB5BPXNL2 and XUB6BPXNL2



Line of sight: 90° to case axis (radial)

XUB6BNXWL2 and XUB6BPXWL2



(1) Adjustment potentiometer (sensitivity).

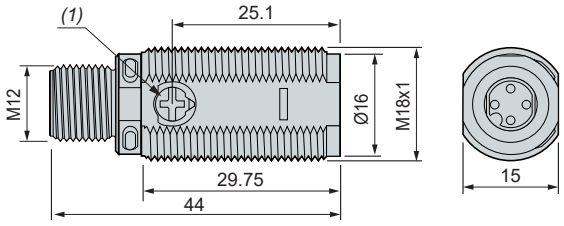
Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Polarised reflex system, plastic, M12 connector version

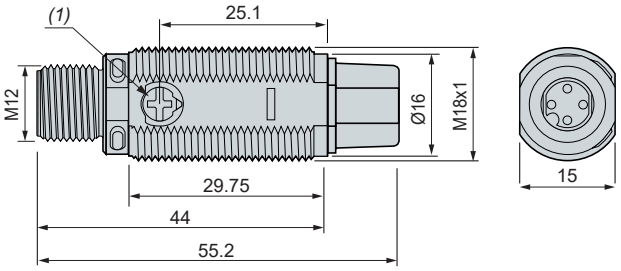
Line of sight: along case axis (axial)

XUB9ANXNM12, XUB9APXNM12 and XUB9APYNM12



Line of sight: 90° to case axis (radial)

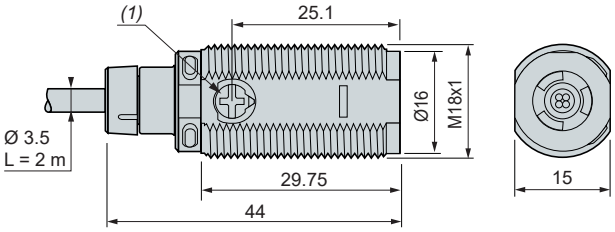
XUB9ANXWM12, XUB9APXWM12 and XUB9APYWM12



Polarised reflex system, plastic, pre-cabled version

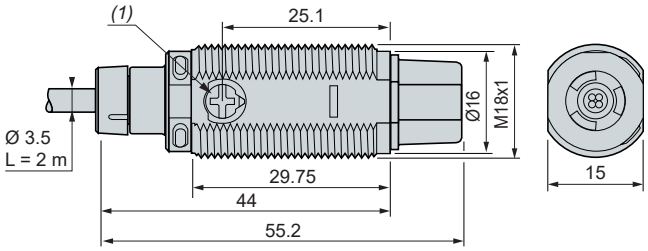
Line of sight: along case axis (axial)

XUB9ANXNL2 and XUB9APXNL2



Line of sight: 90° to case axis (radial)

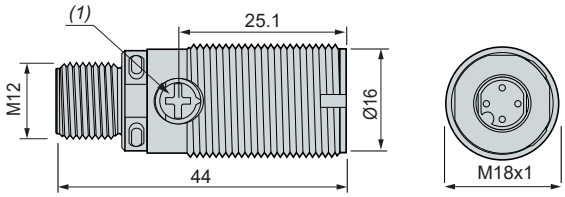
XUB9ANXWL2 and XUB9APXWL2



Polarised reflex system, metal, M12 connector version

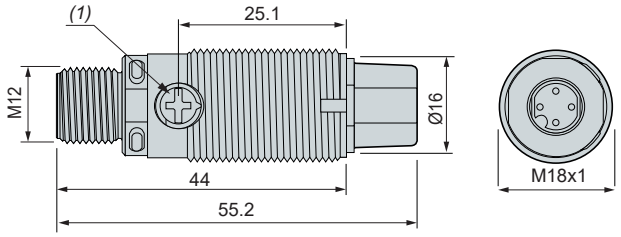
Line of sight: along case axis (axial)

XUB9BNXNM12, XUB9BPXNM12 and XUB9BPYNM12



Line of sight: 90° to case axis (radial)

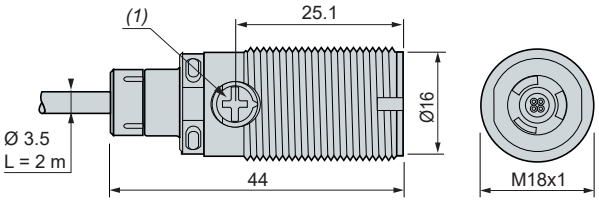
XUB9BNXWM12, XUB9BPXWM12 and XUB9BPYWM12



Polarised reflex system, metal, pre-cabled version

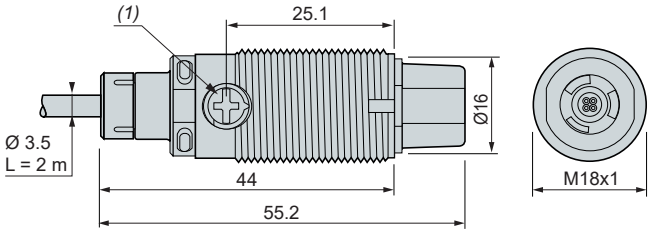
Line of sight: along case axis (axial)

XUB9BNXNL2 and XUB9BPXNL2



Line of sight: 90° to case axis (radial)

XUB9BNXWL2 and XUB9BPXWL2



(1) Adjustment potentiometer (sensitivity).

Photo-electric sensors

XUN general purpose (1), single mode function

Hybrid miniature design, plastic, thru-beam system
Four-wire DC, solid-state output, wire setting for NO/NC

XUN2APYNM12

XUN2APYNM12R

XUN2ANXNL2
XUN2APXNL2

XUN2AKXNL2T

XUN2ANXNM12
XUN2APXNM12

XUN2AKXNM12T

XUN2ANXNL2R
XUN2APXNL2R

XUN2ANXNM12R
XUN2APXNM12R

Thru-beam system with adjustable sensitivity

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight kg
Transmitter + receiver IO-Link					
30 m/20 m	NO (Dark ON)/ NC (Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUN2APYNM12**	0 013
Transmitter + receiver					
30 m/20 m	NO (Dark ON)/ NC (Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUN2ANXNL2**	0 040
			M12 connector (4-pin)	**XUN2ANXNM12**	0 013
		PNP	Pre-cabled (L = 2 m)	**XUN2APXNL2**	0 040
			M12 connector (4-pin)	**XUN2APXNM12**	0 013
Transmitter (2)					
30 m/20 m			Pre-cabled (L = 2 m)	**XUN2AKXNL2T**	0 040
			M12 connector (4-pin)	**XUN2AKXNM12T**	0 013
Receiver IO-Link					
30 m/20 m	NO (Dark ON)/ NC (Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUN2APYNM12R**	0 013
Receiver					
30 m/20 m	NO (Dark ON)/ NC (Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUN2ANXNL2R**	0 040
			M12 connector (4-pin)	**XUN2ANXNM12R**	0 013
		PNP	Pre-cabled (L = 2 m)	**XUN2APXNL2R**	0 040
			M12 connector (4-pin)	**XUN2APXNM12R**	0 013

Accessories

IO-Link Master (3)

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 3rd quarter 2024
(2) All transmitters are compatible with the receivers listed below.
(3) Available 2nd quarter 2024.

Photo-electric sensors

XUN general purpose *(1)*, single mode function

Hybrid miniature design, plastic, thru-beam system
Four-wire DC, solid-state output, wire setting for NO/NC

XUN5APYNM12
XUN6APYNM12

Diffuse system with adjustable sensitivity, IO-Link

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight kg
Long range, red LED emission					
1 m/0.7 m	NO (Light ON)/ NC (Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUN5APYNM12**	0 013
Medium range, red LED emission					
0.6 m/0.42 m	NO (Light ON)/ NC (Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUN6APYNM12**	0 013

XUN5ANXNL2
XUN5APXNL2

XUN5ANXNM12
XUN5APXNM12

Diffuse system with adjustable sensitivity

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight kg
Long range, red LED emission					
1 m/0.7 m	NO (Light ON)/ NC (Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUN5ANXNL2**	0 040
			M12 connector (4-pin)	**XUN5ANXNM12**	0 013
		PNP	Pre-cabled (L = 2 m)	**XUN5APXNL2**	0 040
			M12 connector (4-pin)	**XUN5APXNM12**	0 013
Medium range, red LED emission					
0.6 m/0.42 m	NO (Light ON)/ NC (Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUN6ANXNL2**	0 040
			M12 connector (4-pin)	**XUN6ANXNM12**	0 013
		PNP	Pre-cabled (L = 2 m)	**XUN6APXNL2**	0 040
			M12 connector (4-pin)	**XUN6APXNM12**	0 013

XUN6ANXNL2
XUN6APXNL2

XUN6ANXNM12
XUN6APXNM12

Accessories

IO-Link Master *(2)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 3rd quarter 2024
(2) Available 2nd quarter 2024.

Photo-electric sensors

XUN general purpose (1), single mode function

Hybrid miniature design, plastic, polarised reflex system
Four-wire DC, solid-state output, wire setting for NO/NC

Apollo_CP0720020

XUN9APYNM12

Apollo_CP0720018

XUN9ANXNL2
XUN9APXNL2

Apollo_CP0720020

XUN9ANXNM12
XUN9APXNM12

Polarised reflex system with adjustable sensitivity, IO-Link

Plastic, red LED emission

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight kg
7 m/5 m	NO (Dark ON)/ NC (Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUN9APYNM12**	0 013

Polarised reflex system with adjustable sensitivity

Plastic, red LED emission

7 m/5 m	NO (Dark ON)/ NC (Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUN9ANXNL2**	0 040
			M12 connector (4-pin)	**XUN9ANXNM12**	0 013
		PNP	Pre-cabled (L = 2 m)	**XUN9APXNL2**	0 040
			M12 connector (4-pin)	**XUN9APXNM12**	0 013

Accessories

IO-Link Master (2)

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 3rd quarter 2024
(2) Available 2nd quarter 2024.

Photo-electric sensors

XUN general purpose, single mode function
Hybrid miniature design, plastic, polarised reflex system
Four-wire DC, solid-state output, wire setting for NO/NC

Characteristics

Sensor type			XUN2APYNM12, XUN2APYNM12R, XUN2A●XNM12, XU2AKXNM12T, XUN2A●XNM12R, XUN5APYNM12, XUN5A●XNM12, XUN6APYNM12, XUN6A●XNM12, XUN9APYNM12, XUN9A●XNM12	XUN2A●XNL2, XUN2A●XNL2R, XUN2AKXNL2T, XUN5A●XNL2, XUN6A●XNL2, XUN9A●XNL2
Product certifications			CE, UKCA, cULus	
Connection	Connector		M12	–
	Pre-cabled		–	Length: 2 m
Sensing distance Excess gain = 1: maximum sensing distance Excess gain = 2 : nominal sensing distance	Thru-beam system **XUN2**	**m**	30 (with excess gain = 1) 20 (with excess gain = 2)	
	Diffuse system **XUN5** (using a white paper 200 x 200 mm)	**m**	1 (with excess gain = 1) 0.7 (with excess gain = 2)	
	Diffuse system **XUN6** (using a white paper 200 x 200 mm)	**m**	0.6 (with excess gain = 1) 0.42 (with excess gain = 2)	
	Polarised reflex system **XUN9** (using a 50 x 50 mm reflector XUZC50)	**m**	7 (with excess gain = 1) 5 (with excess gain = 2)	
Blind zone		**mm**	0 (white object and potentiometer max.)	
Sensing distance setting			Potentiometer 1 turn (+/- 220 degrees)	
Colour of detection light beam			Red (except XUB2 transmitter)	
Output type			PNP/NPN (or autodetect PNP/NPN with IO-Link)	
Hysteresis			2 % < H < 20 % at Sn	
Degree of protection	Conforming to IEC 60529		IP65, IP67	
	Conforming to DIN 40050-9		IP69K (M12 connector versions only)	
Artificial optical radiation	Conforming to IEC 62471		Class 0 (risk exempt)	
Radiated disturbances emissions	Conforming to EN 55011/CISPR 1		Class A	
Storage temperature		**°C**	-40…+70	
Operating temperature		**°C**	-30…+55	
Materials	Case		XUN2A, XUN5A, XUN6A and XUN9A: ABS	
	Lens cover		PMMA	
	Back cap		MABS	
	Potentiometer screw		PA66	
	Cable		–	PVC
Vibration resistance	Conforming to IEC 60068-2-6		Frequency range: 10 to 55 Hz Acceleration: 7 gn	
Shock resistance	Conforming to IEC 60068-2-27		Peak acceleration: 30 gn Duration of the pulse: 11 ms	
Rated supply voltage		**V**	12 . 24 ⎓ with protection against reverse polarity	
Voltage limits (including ripple)		**V**	10 . 30 ⎓	
Current consumption, no-load		**mA**	< 20/IO-Link: < 30	
Switching capacity		**mA**	100	
Voltage drop, closed state		**V**	< 2 max.	
Maximum switching frequency		**Hz**	1000	
Delays	First-up	**ms**	< 100/IO-Link : < 300	
	Response	**ms**	0.5 max.	
	Recovery	**ms**	0.5 max	

Characteristics: page 35 | Schemes: page 36 | Curves: pages 39 and 40 | Descriptions, dimensions: pages 41 to 43 | Accessories: page 74

Photo-electric sensors

XUN general purpose, single mode function

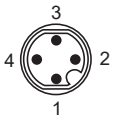
Hybrid miniature design, plastic, thru-beam and diffuse systems

Four-wire DC, solid-state output, wire setting for NO/NC

Wiring schemes

Thru-beam system

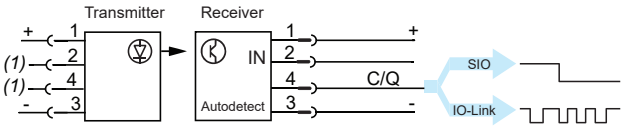
M12 connector - 4 pins - IO-Link



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

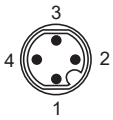
Autodetect PNP/NPN or by IO-Link

XUN2APYNM12



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

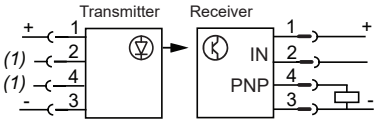
M12 connector - 4 pins



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)

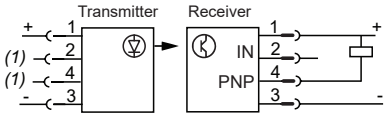
PNP

XUN2APXNM12



NPN

XUN2ANXNM12

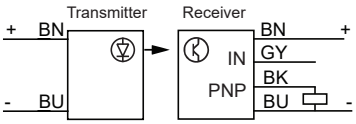


Pre-cabled - 4 wires

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

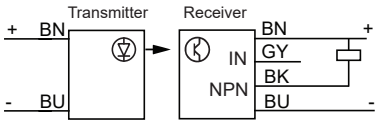
PNP

XUN2APXNL2



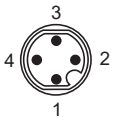
NPN

XUN2ANXNL2



Diffuse system

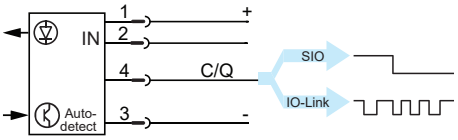
M12 connector - 4 pins - IO-Link



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

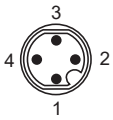
Autodetect PNP/NPN or by IO-Link

XUN5APYNM12, XUN6APYNM12



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

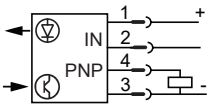
M12 connector - 4 pins



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)

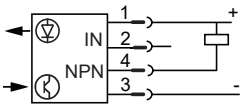
PNP

XUN5APXNM12, XUN6APXNM12



NPN

XUN5ANXNM12, XUN6ANXNM12



(1) Not connected

Photo-electric sensors

XUN general purpose, single mode function

Hybrid miniature design, plastic, diffuse and polarised reflex systems

Four-wire DC, solid-state output, wire setting for NO/NC

Wiring schemes (continued)

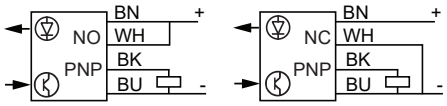
Diffuse system (continued)

Pre-cabled - 4 wires

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

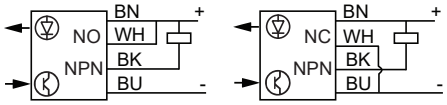
PNP

XUN5APXNL2, XUN6APXNL2



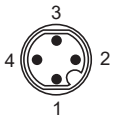
NPN

XUN5ANXNL12, XUN6ANXNL2,



Polarised reflex system

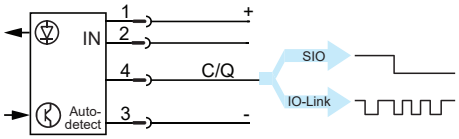
M12 connector - 4 pins - IO-Link



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

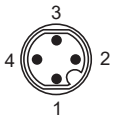
Autodetect PNP/NPN or by IO-Link

XUN9APYNM12



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

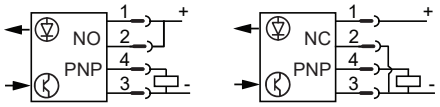
M12 connector - 4 pins



Control input IN:
(+) = NO
(-) = NC
Open = NO

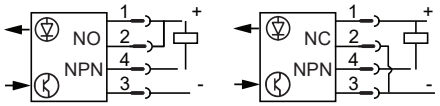
PNP

XUN9APXNM12



NPN

XUN9ANXNM12

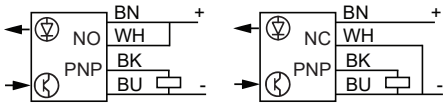


Pre-cabled - 4 wires

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

PNP

XUN9APXNL2



NPN

XUN9ANXNL12

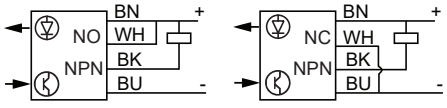


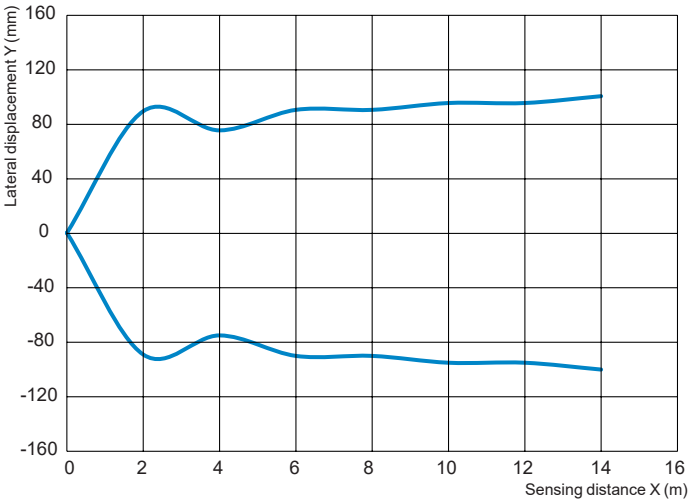
Photo-electric sensors

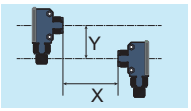
XUN general purpose, single mode function
Hybrid miniature design, plastic, thru-beam system
Four-wire DC, solid-state output, wire setting for NO/NC

Detection curves

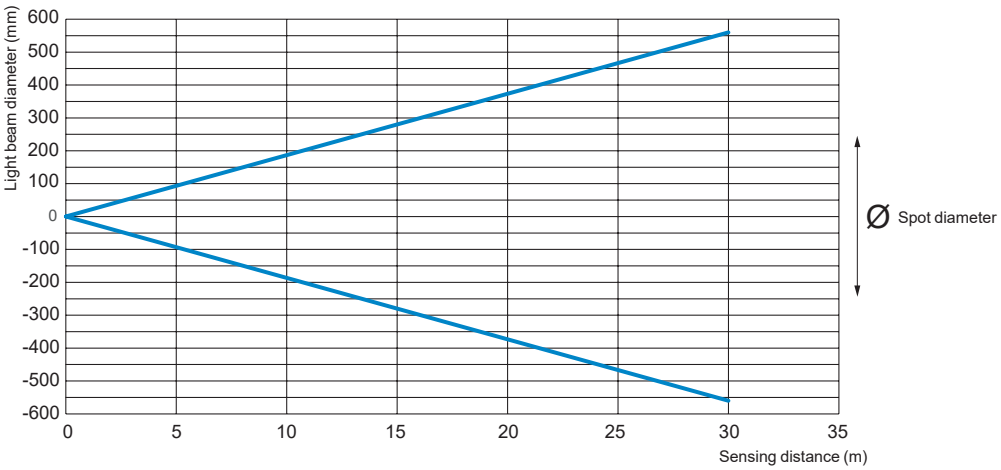
Thru-beam system: XUN2

Lateral displacement

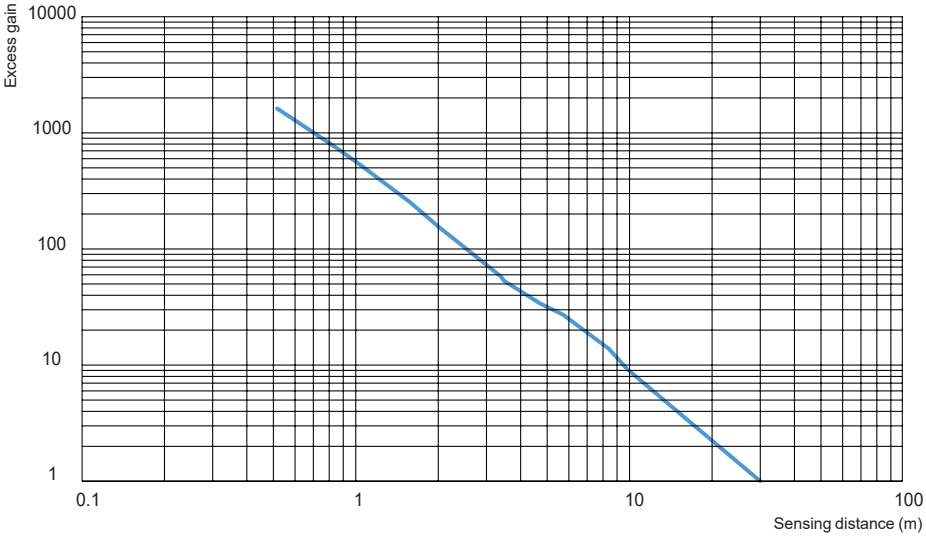




Light beam diameter



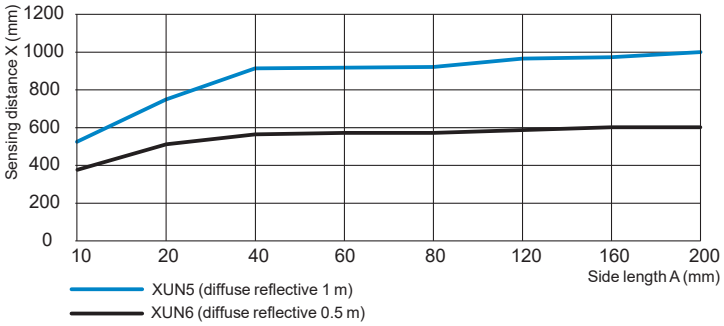
Excess gain

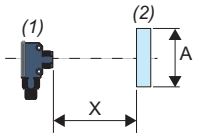


Detection curves *(continued)*

Diffuse system: XUN5 and XUN6

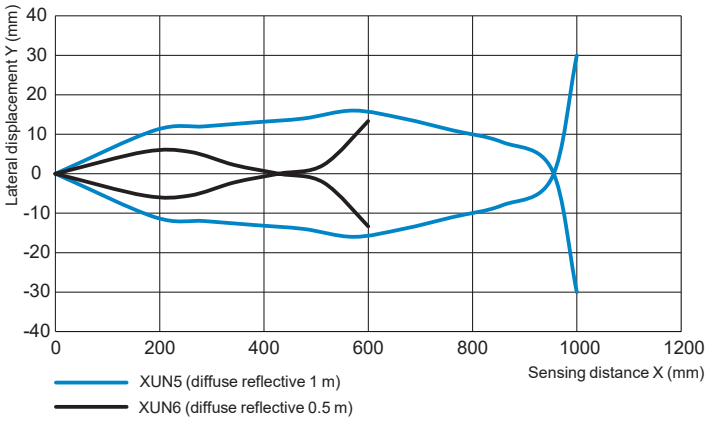
Minimum object size/sensing distance

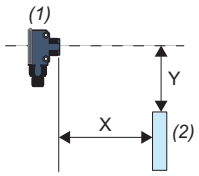




(1): Sensor
(2): Object (white matt paper of A mm square)
A: Side length (mm)
X: Sensing distance (mm)

Lateral displacement





(1): Sensor
(2): Object (200 mm square white paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

Excess gain

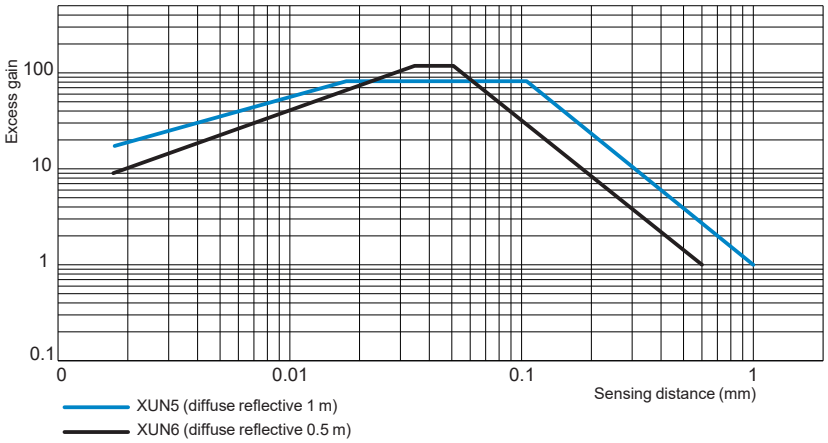


Photo-electric sensors

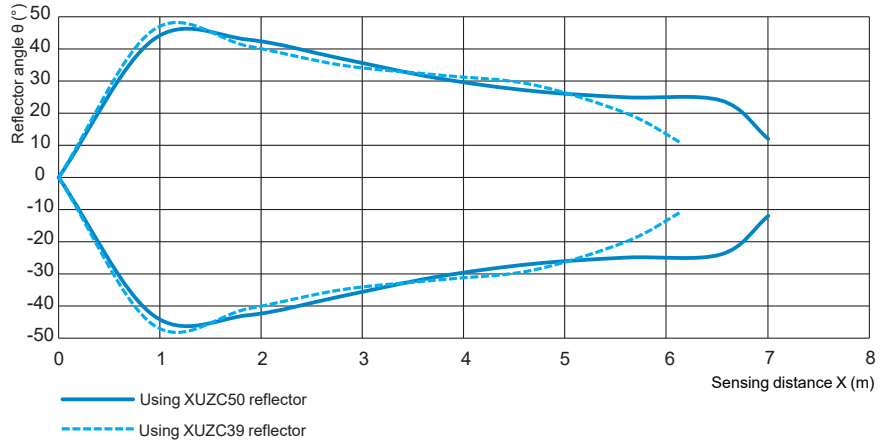
XUN general purpose, single mode function

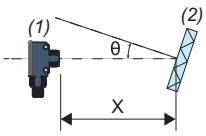
Hybrid miniature design, plastic, polarised reflex system
Four-wire DC, solid-state output, wire setting for NO/NC

Detection curves *(continued)*

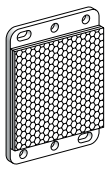
Polarised reflex system: XUN9

Reflector angle





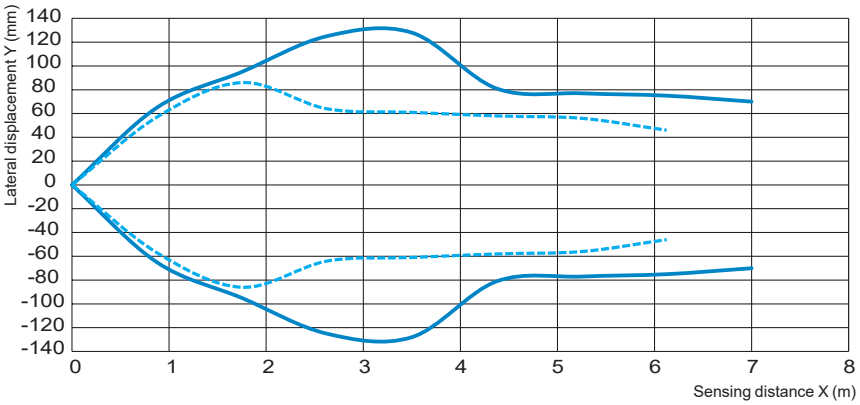
(1): Sensor
(2): Reflector
θ: Reflector angle (°)
X: Sensing distance (m)

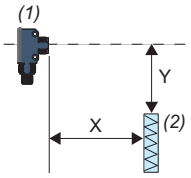


XUZC50

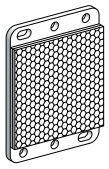
XUZC39

Lateral displacement





(1): Sensor
(2): Reflector
Y: Lateral displacement (mm)
X: Sensing distance (m)



XUZC50

XUZC39

Excess gain

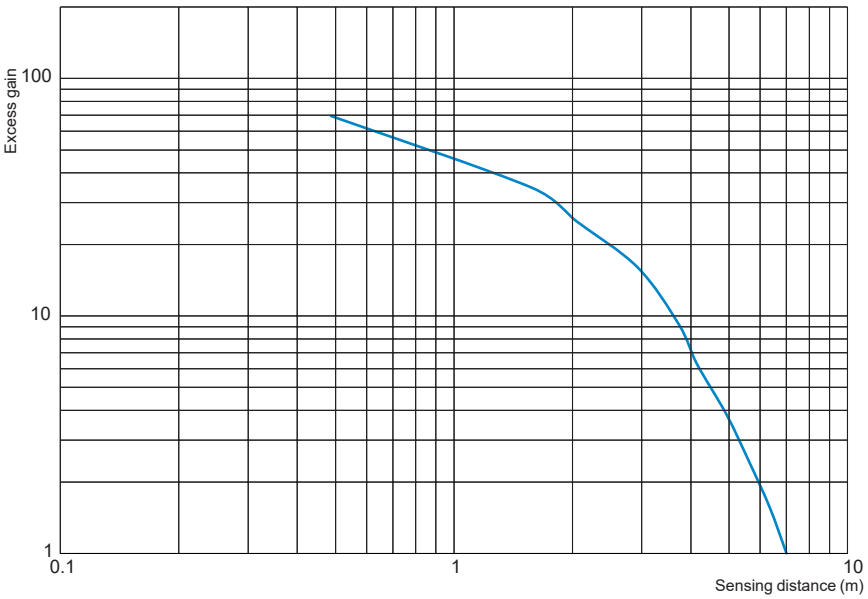


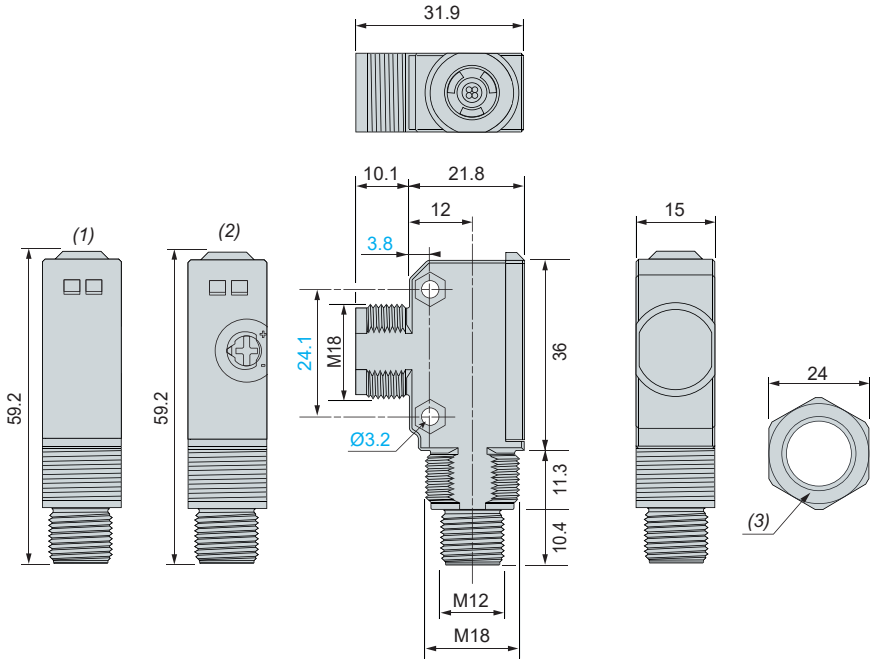
Photo-electric sensors

XUN general purpose, single mode function
Hybrid miniature design, plastic, thru-beam system
Four-wire DC, solid-state output, wire setting for NO/NC

Thru-beam system, plastic, M12 connector version

Transmitter + receiver (common top, side and front views)

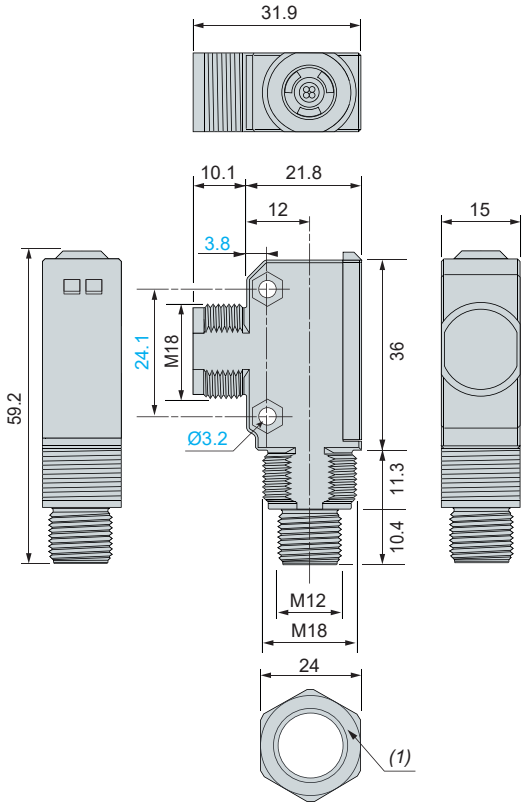
XUN2APYNM12 , XUN2ANXNM12, XUN2APXNM12



(1) Transmitter
(2) Receiver
(3) 4 fixing nuts provided with the sensors

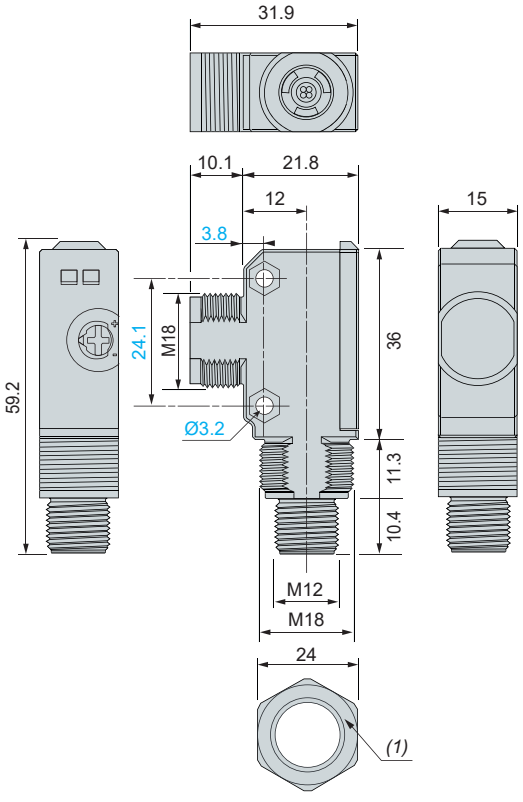
Transmitter only

XUN2AKXNM12T



Receiver only

XUN2APYNM12R, XUN2ANXNM12R, XUN2APXNM12R

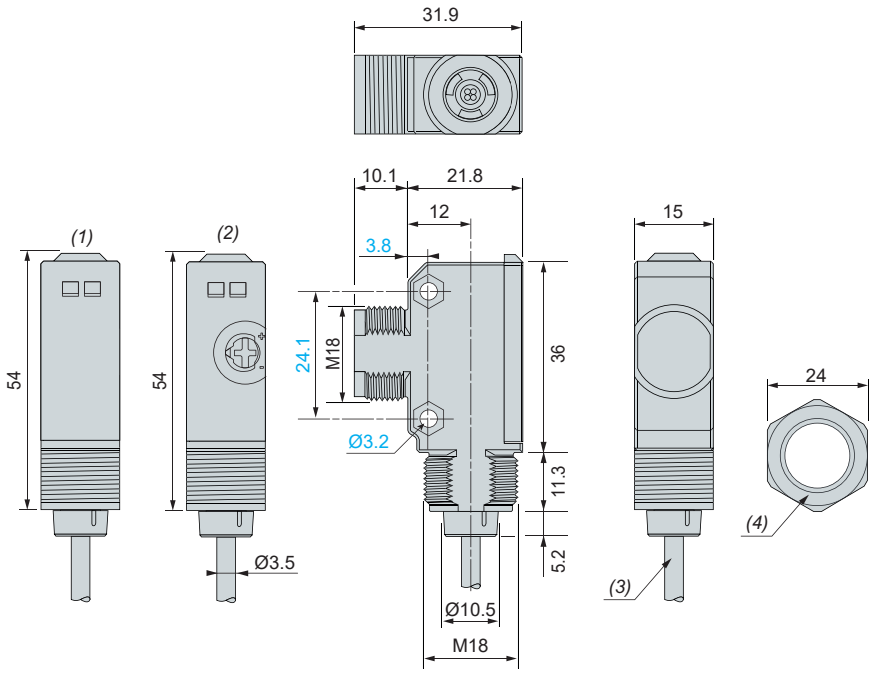


(1) 2 fixing nuts provided with the sensor.

Thru-beam system, plastic, pre-cabled version

Transmitter + receiver (common top, side and front views)

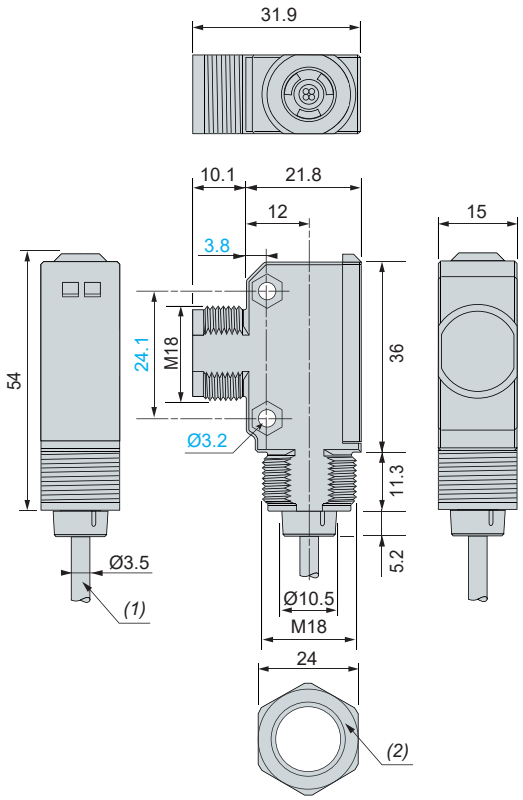
XUN2ANXNL2, XUN2APXNL2



(1) Transmitter
(2) Receiver
(3) 2 m long cable
(4) 4 fixing nuts provided with the sensors

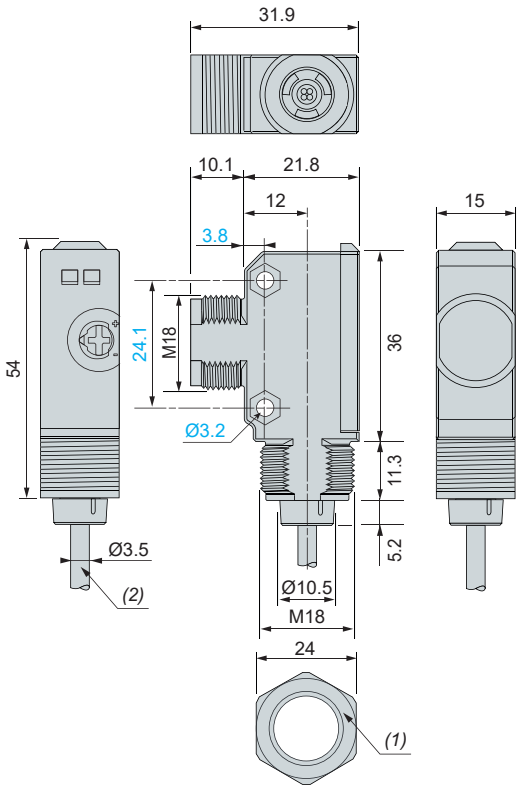
Transmitter only

XUN2AKXNL2T



Receiver only

XUN2ANXNL2R, XUN2APXNL2R



(1) 2 m long cable.
(2) 2 fixing nuts provided with the sensor.

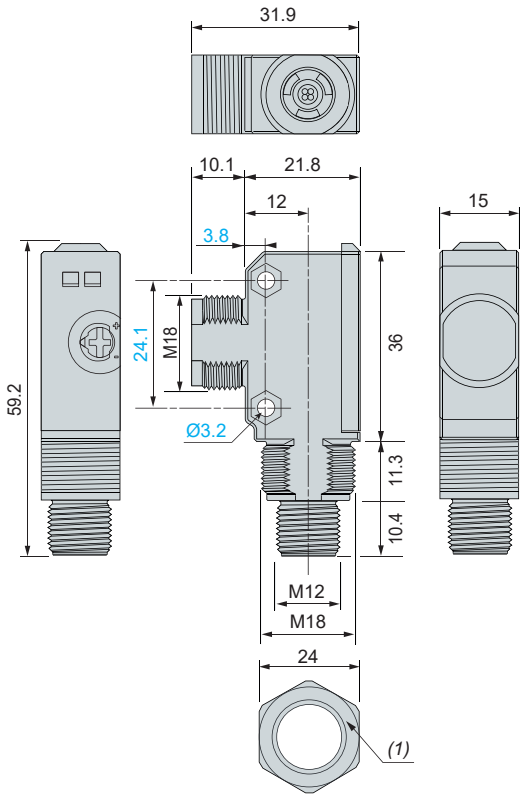
Photo-electric sensors

XUN general purpose, single mode function
Hybrid miniature design, plastic, diffuse and polarised reflex systems
Four-wire DC, solid-state output, wire setting for NO/NC

Diffuse system, M12 connector version

Long range or medium range, red LED emmission

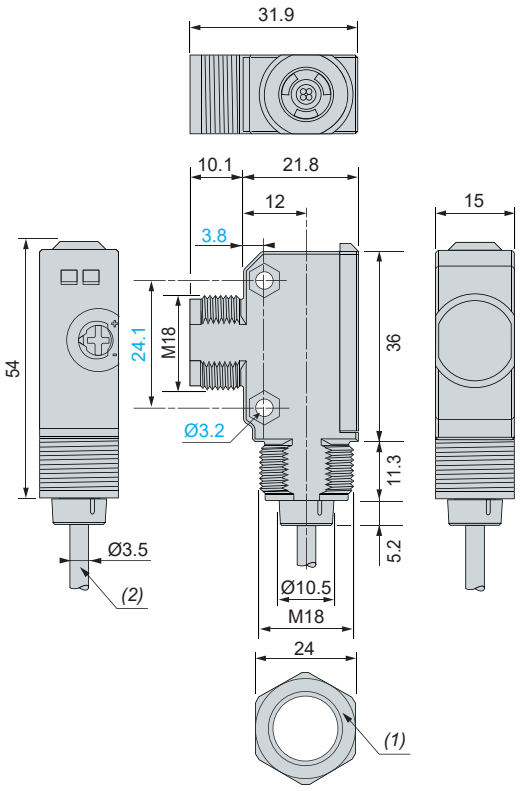
XUN5APYNM12, XUN5ANXNM12, XUN5APXNM12, XUN6APYNM12, XUN6ANXNM12, XUN6APXNM12



Diffuse system, pre-cabled version

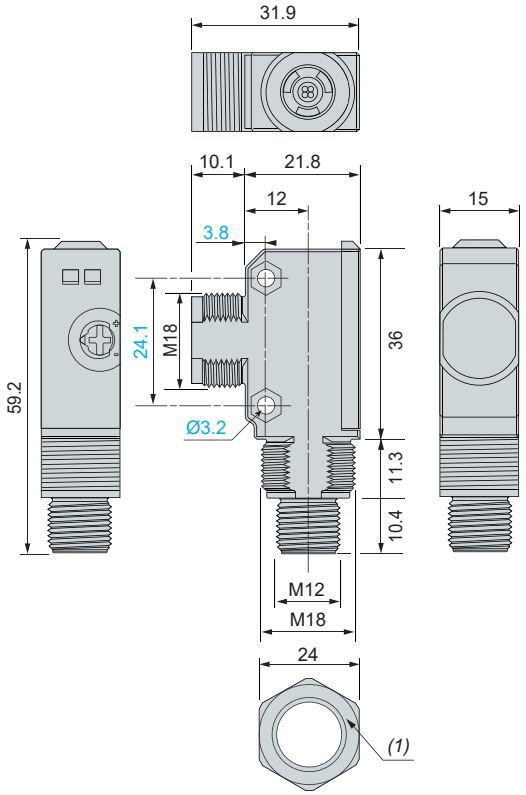
Long range or medium range, red LED emmission

XUN5ANXNL2, XUN5APXNL2, XUN6ANXNL2, XUN6APXNL2



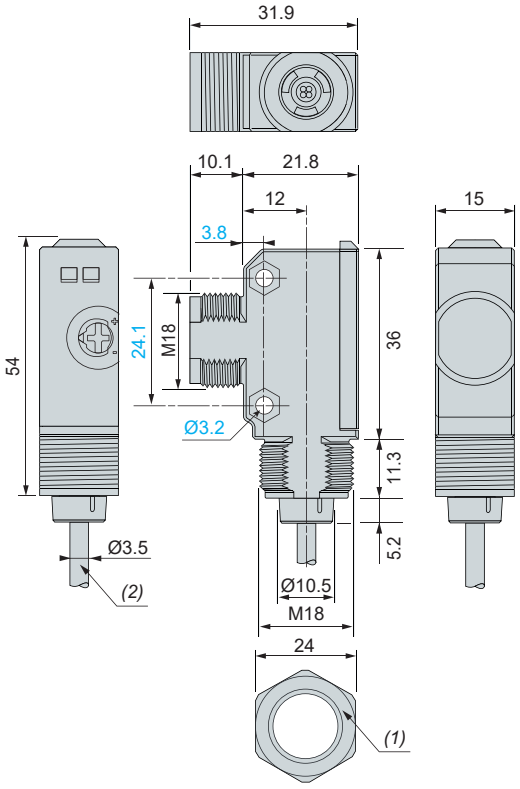
Polarised reflex system, M12 connector version

XUN9APYNM12, XUN9ANXNM12, XUN9APXNM12



Polarised reflex system, pre-cabled version

XUN9ANXNL2, XUN9APXNL2



(1) 2 fixing nuts provided with the sensor.
(2) 2 m long cable.

Photo-electric sensors
XU application
For material handling and working, packaging

XU photo-electric sensors
for packaging, food & beverage

Telemecanique Sensors presents an expanded XU range of application photo-electric sensors to be embedded in automated lines for the packaging market segment .

With their diverse technical characteristics, high performance and smart management capabilities, they are designed to address a wide scope of specific needs .

Packaging *Handling* *Food and Beverage*

Fast object detection

Sensor family per application

> Marking detection
> Very dark and light-absorbing object detection
> Accurate detection
> Colour object detection, from simple colour to very complex colour sorting
> Transparent object detection, with or without reflector

Five light spots

Select the perfectly suitable light spot

> **Laser light**: to detect very small objects and contrast marks with pinpoint accuracy, even at a long sensing distance
> **White light**: for simple contrast detection (high contrast), short distances
> **Blue light**: for low-reflectivity objects, especially dark ones. Blue light short waves mean less penetration, resulting in higher surface reflection.
> **Red light**: for detecting objects at a long distance and for very absorbing objects
> **RGB light** : for more accurate contrast in colour prints

Laser *Red light* *White light* *Blue light* *RGB*

SENTRONIC AG 056 222 38 18 mailbox@sentronic.com www.sentronic.com

Photo-electric sensors
XU application
For material handling and working, packaging

Designed for small spaces in packaging machines

Choose the casing, connection type and size

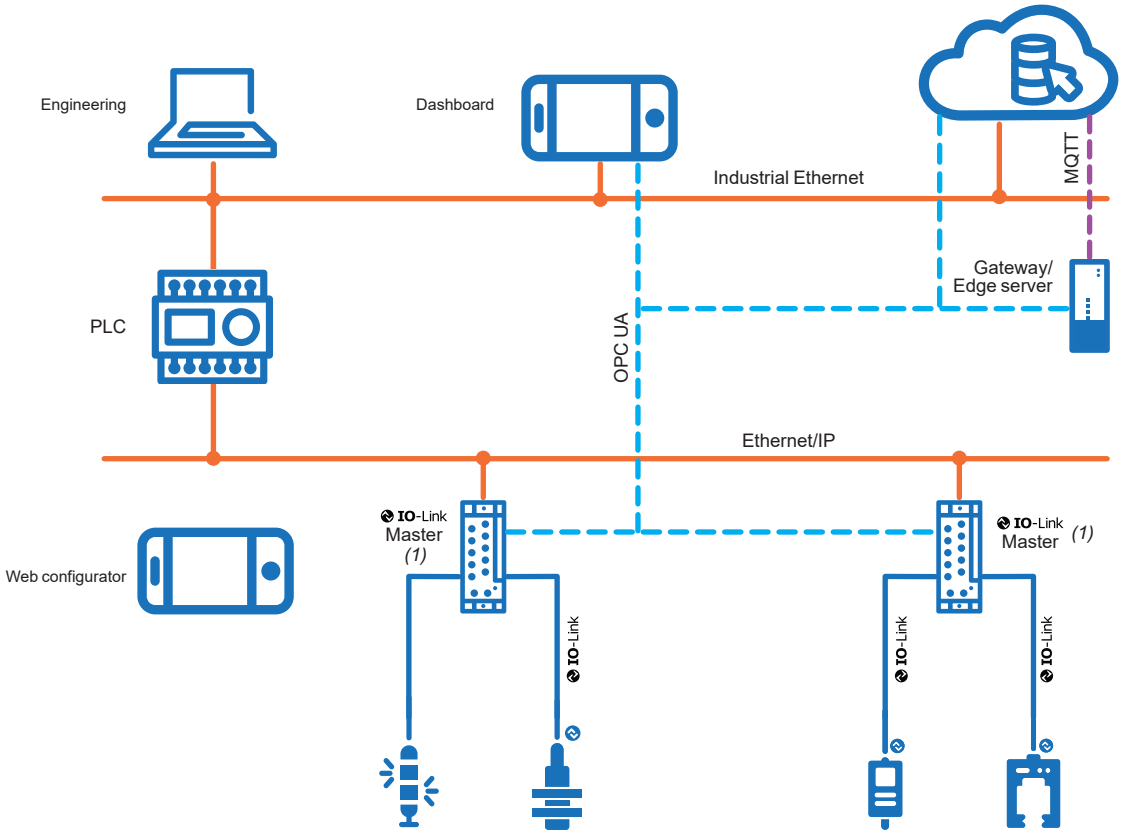
> Plastic or metal casing
> Pre-cabled, with pigtail or connector
> Miniature, sub-miniature and compact size

Simple communication with the PLC via Ethernet

IO-Link

Smart devices communicate via IO-Link protocol

> Install your new IO-Link sensor easily: automatic reading of the device identification file (IODD) and automatic detection of the sensor output mode
> Automated parameter settings: configure the detection parameters
> Extended diagnostics, with real-time information for optimised usage and maintenance



(1) Available 2nd quarter 2024.

Photo-electric sensors
XU application, for marking detection
Miniature and compact design, plastic

XUMRAWAYM8
XUMRAGAYM8
XUMRACAYM8

XUMRAWAYP015
XUMRAGAYP015

Contrast mark reader sensors IO-Link

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight kg
White light					
15 mm/12 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUMRAWAYM8**	0 018
		Autodetect PNP/NPN	Pigtail M12 (L= 0 .15 m)	**XUMRAWAYP015**	0 027
RGB light					
15 mm/12 mm	NO/NC configuration via Teach-in or IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUMRAGAYM8**	0 018
		Autodetect PNP/NPN	Pigtail M12 (L= 0 .15 m)	**XUMRAGAYP015**	0 027
		Autodetect PNP/NPN	M8 connector (4-pin)	**XUMRACAYM8**	0 018

XUM5ALAYM8

XUM5ALAYL2

Laser light					
250 mm/150 mm	NO/NC configuration via Teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUM5ALAYL2**	0 045
		Autodetect PNP/NPN	M8 connector (4-pin)	**XUM5ALAYM8**	0 018
		Autodetect PNP/NPN	Pigtail M12 (L= 0 .15 m)	**XUM5ALAYP015**	0 026

Accessories

IO-Link Master *(1)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 2nd quarter 2024.

Photo-electric sensors
XU application, for marking detection
Miniature and compact design, plastic

Characteristics

Sensor type			XUMRA●AYM8	XUM5ALAY●●
Product certifications			CE, UKCA, cULus, Ecolab	
Connection	Connector		M8	M8
	Pigtail		M12 Length: 0 .15 m	M12 Length: 0 .15 m
	Pre-cabled		–	Length: 2 m
Maximum sensing distance Smax	Contrast mark reader	**mm**	15	250
Detection light beam colour			White LED RGB (red, green, blue)	Red (laser class 1)
Degree of protection	Conforming to IEC 60529		IP67	
	Conforming to DIN 40050-9		IP69K	
Storage temperature		**°C**	-20 . +80	
Operating temperature		**°C**	-20 . +55	-20 . +60
Materials	Case		ABS	
	Lens		PMMA	
	Front		PMMA	
	Cable		PVC	
Rated supply voltage		**V**	12 . 24 ⎓	
Voltage limits (including ripple)		**V**	10 . 30 ⎓	
Current consumption, no-load		**mA**	≤ 30 for RGB ≤ 25 for white light	≤ 30
Switching capacity		**mA**	100	
Maximum switching frequency		**Hz**	10,000 for XUMRAW and XUMARG 2500 for XUMRAC	4000
Delays	First-up	**ms**	300	
	Response	**µs**	50 for XUMRAW and XUMARG 200 for XUMRAC	125
	Recovery	**ms**	300	

Photo-electric sensors
XU application, for marking detection
Miniature and compact design, plastic

Wiring schemes

Contrast mark reader systems

M8/M12 connector - 4-pin - IO-Link

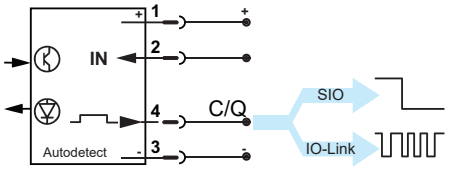
M8

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	Communication (IO-Link)

M12

Autodetect PNP/NPN or by IO-Link

XUM●A●AYM8, XUM●A●AYP015 (white, RGB and laser)



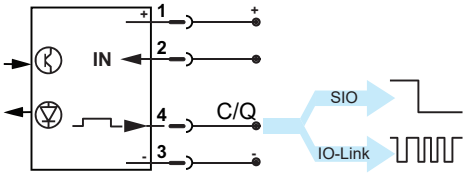
***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

Pre-cabled - 4-wire - IO-Link

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	C	Switching signal (SIO) Communication (IO-Link)

Autodetect PNP/NPN or by IO-Link

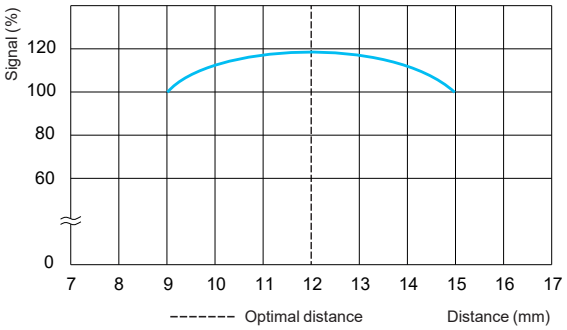
XUM5ALAYL2 (laser)



Detection curves

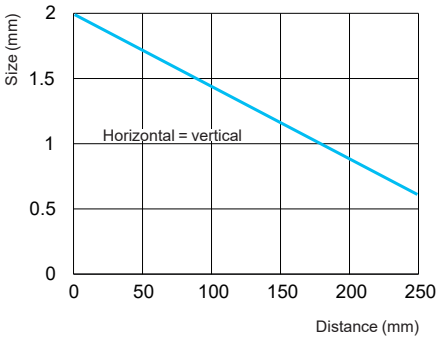
Contrast mark reader system: XUMRA●AYM8, XUMRA●AYP015

Signal process

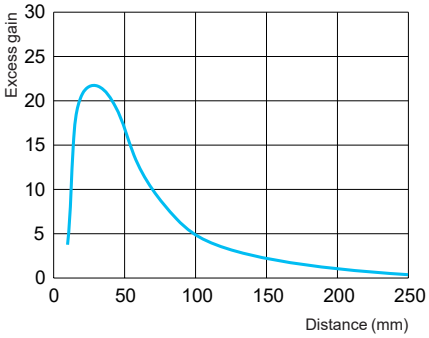


Contrast mark reader system: XUM5ALAY●●

Light spot size

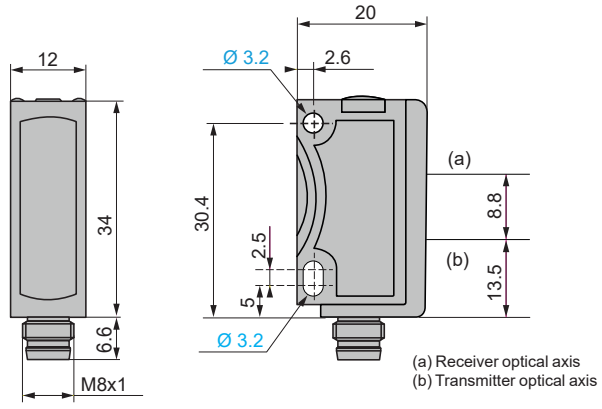


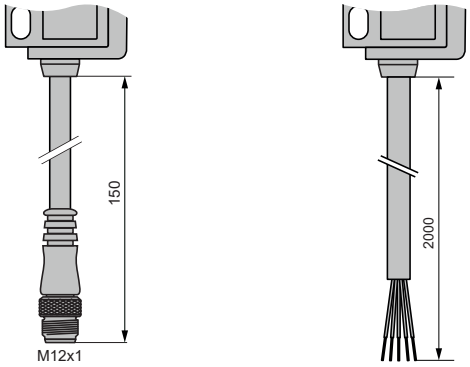
Excess gain



Dimensions

Miniature format: XUM





Compact format: XUK

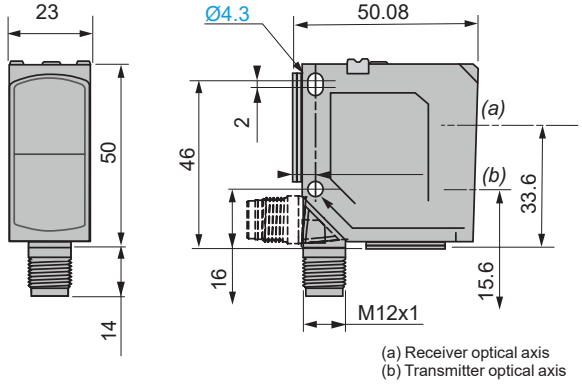


Photo-electric sensors

XU application, for very dark object detection

Miniature, sub-miniature and compact design, plastic

XUM8ABAYP015

XUM7ABPXL2

XUM7ABPXM8, XUM8ABAYM8

XUT7ABPXL2, XUT8ABAYL2

XUT7ABPXP02, XUT8ABAYP02

XUK8ABPXM12

Background suppression sensors IO-Link

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight kg
Adjustable blue light					
200 mm/200 mm (miniature format)	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM8ABAYM8**	0 014
		Autodetect PNP/NPN	Pigtail M12 (L= 0 .15 m)	**XUM8ABAYP015**	0 027
100 mm/100 mm sub-miniature format	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUT8ABAYL2**	0 031
		Autodetect PNP/NPN	Pigtail M8 (L= 0 2 m)	**XUT8ABAYP02**	0 019

Background suppression sensors

Fixed blue light, miniature format

100 mm/80 mm	NO/NC configuration via teach-in	PNP	Pre-cabled (L = 2 m)	**XUM7ABPXL2**	0 056
		PNP	M8 connector (4-pin)	**XUM7ABPXM8**	0 017

Fixed blue light, sub-miniature format

50 mm/50 mm	NO/NC configuration via teach-in	PNP	Pre-cabled (L = 2 m)	**XUT7ABPXL2**	0 031
		PNP	Pigtail M8 (L= 0 2 m)	**XUT7ABPXP02**	0 022

Adjustable blue light (potentiometer)

1200 mm/600 mm	NO/NC configuration via teach-in	PNP	M12 connector (4-pin)	**XUK8ABPXM12**	0 046

Accessories

IO-Link Master *(1)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 2nd quarter 2024.

Photo-electric sensors
XU application, for very dark object detection
Miniature, sub-miniature and compact design, plastic

Characteristics

Sensor type				XU●7ABPX●●	XU●8ABAY●●	XUK8ABPXM12
Product certifications				CE, UKCA, cULus, Ecolab		
Connection	Connector			M8	M8	M12
	Pre-cabled			Length = 2 m	Length = 2 m	–
	Pigtail			Length = 0 2 m	Length = 0 15 m for XUM8 Length = 0 2 m for XUT8	–
Maximum sensing distance Smax	BGS, fixed blue light	XUM7	**mm**	100	–	–
		XUT7	**mm**	50	–	–
	BGS, adjustable blue light	XUM8	**mm**	–	200	–
		XUT8	**mm**	–	100	–
		XUK8	**mm**	–	–	1200
Detection light beam colour				Blue		
Degree of protection	Conforming to IEC 60529			IP67		
	Conforming to DIN 40050-9			IP69K for XUM7 only	IP69K for XUM8 only	IP69K
Storage temperature			**°C**	-20 . +80		
Operating temperature			**°C**	-20 . +60 for XUM7 -20 . +50 for XUT7	-20 . +60	
Materials	Case			ABS for XUM7 PUR for XUT7	ABS for XUM8 PUR for XUT8	ABS/PC
	Lens			PMMA		
	Front			PMMA		–
	Cable			PVC		–
Rated supply voltage			**V**	12 . 24 ⎓	24 ⎓ for XUT8 12 . 24 ⎓ for XUM8	12 . 24 ⎓
Voltage limits (including ripple)			**V**	13 . 30 for XUT8		
Current consumption, no-load			**mA**	≤ 30 for XUM		≤ 30
			mA	≤ 20 for XUT		
Switching capacity			**mA**	≤ 100 for XUM		≤ 100
			mA	≤ 50 for XUT		
Maximum switching frequency			**Hz**	1000	700	600
Delays	First-up		**ms**	< 300		
	Response		**µs**	500	700 for XUT 500 for XUM	830 max.
	Recovery		**ms**	< 300		300 max.

Photo-electric sensors
XU application, for very dark object detection
Miniature, sub-miniature and compact design, plastic

Wiring schemes

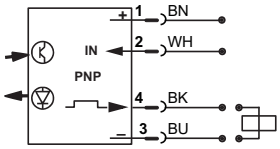
Background suppression system

M8 connector (including pigtail) - 4-pin

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NC - = NO Open = NO
3	-	0 V ⎓
4	Q	Switching signal

PNP

XUM7ABPXM8, XUT7ABPXP02

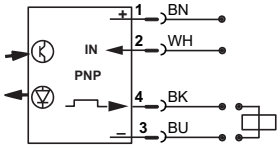


Pre-cabled - 4-wire

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

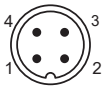
PNP

XUT7ABPXL2, XUM7ABPXL2



M8/M12 connector - 4-pin IO-Link

M8

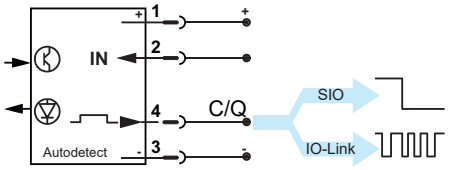


M12

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	C	Communication (IO-Link)

Autodetect PNP/NPN or by IO-Link

XUM8ABAYM8, XUM8ABAYP015, XUT8ABAYP02



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

Wiring schemes

Background suppression system

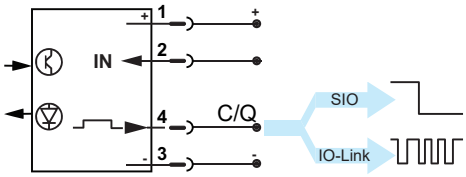
Pre-cabled - 4-wire IO-Link

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	C	Switching signal (SIO) Communication (IO-Link)

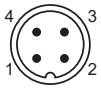
Autodetect PNP/NPN or by IO-Link

XUT8ABAYL2



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

M12 connector - 4-pin



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NC - = NO Open = NO
3	-	0 V ⎓
4	C	Switching signal

PNP

XUK8ABPXM12

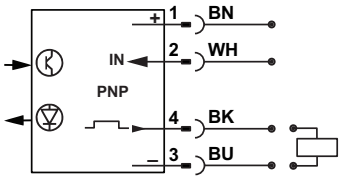
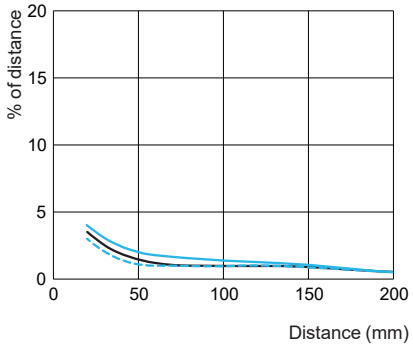


Photo-electric sensors
XU application, for very dark object detection
Miniature, sub-miniature and compact design, plastic

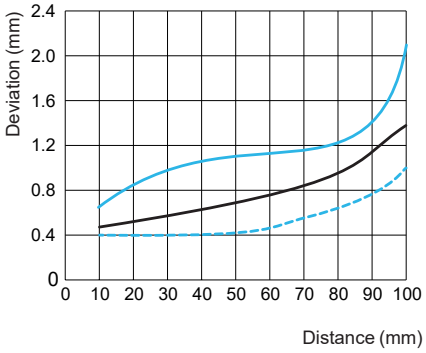
Detection curves

Background suppression system

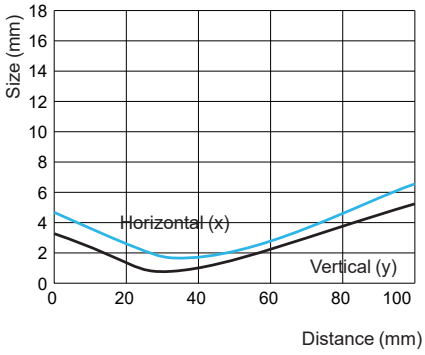
Scanning properties: XUM8ABAY●●



Scanning properties: XUT8ABAY●●

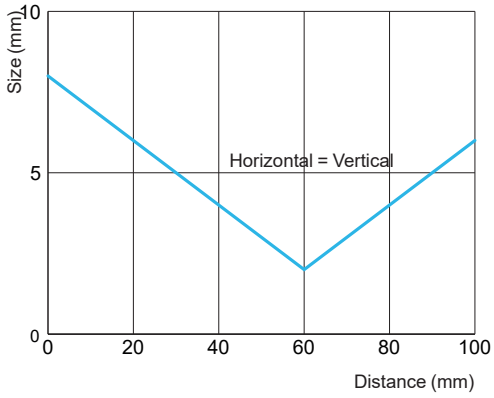


Light spot size: XUT8ABAY●●

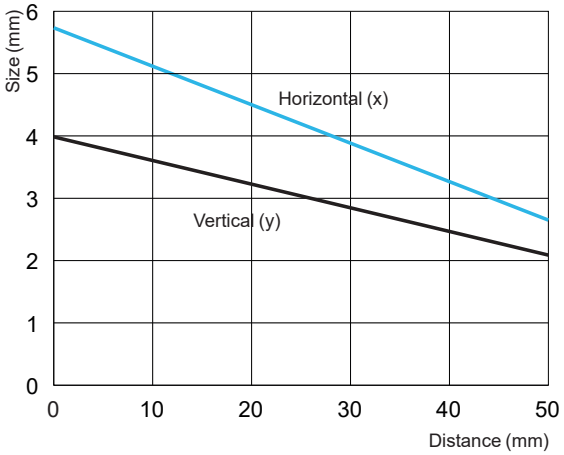


Min .distance white object (90%)/white background (90%) (mm)
Min .distance grey object (18%)/white background (90%) (mm)
Min .distance black object (6%)/white background (90%) (mm)

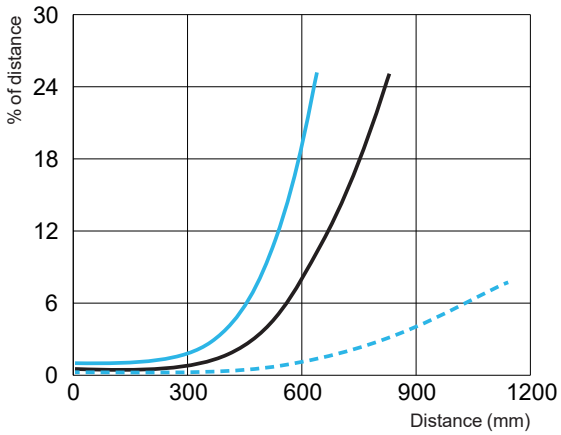
Light spot size: XUM7ABPX●●



Light spot size: XUT7ABPX●●



Scanning properties: XUK8ABPXM12



Min .distance white object (90%)/white background (90%) (mm)
Min .distance grey object (18%)/white background (90%) (mm)
Min .distance black object (6%)/white background (90%) (mm)

Light beam diameter: XUK8ABPXM12

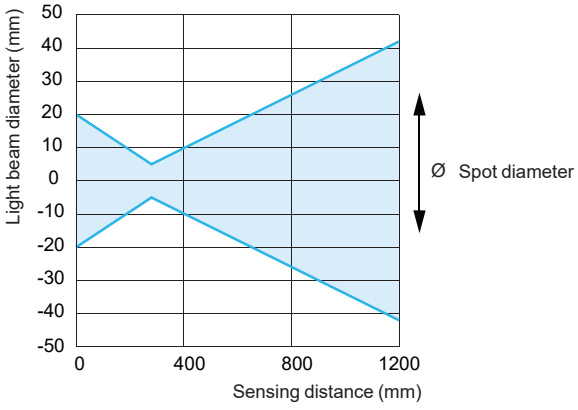


Photo-electric sensors

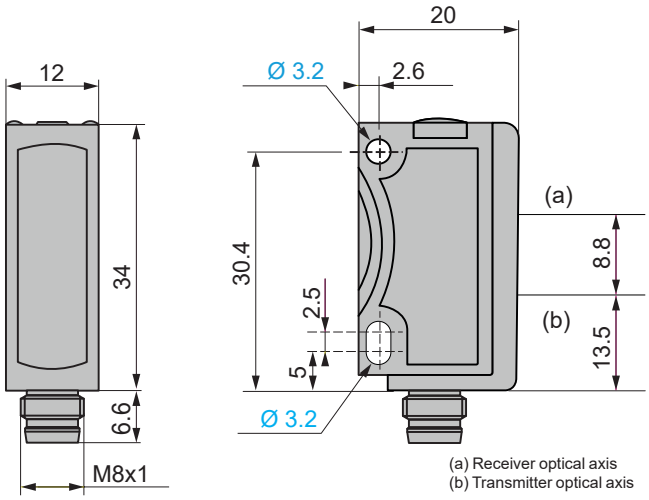
XU application, for very dark object detection

Miniature, sub-miniature and compact design, plastic

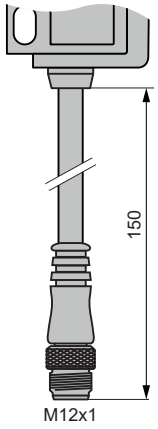
Dimensions

Miniature format: XUM

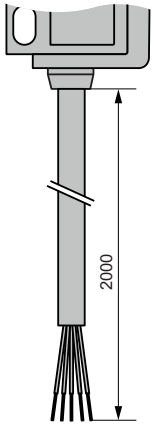
XUM7ABPXL2, XUM8ABAYM8



XUM8ABAYP015

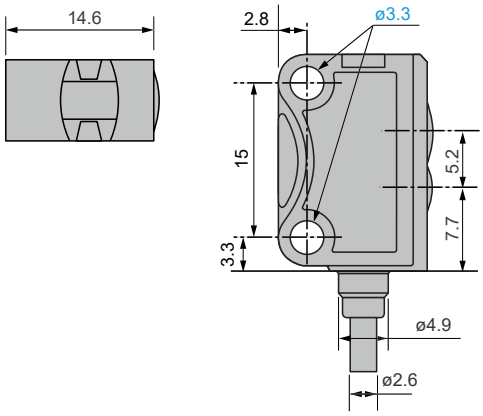


XUM7ABPXL2

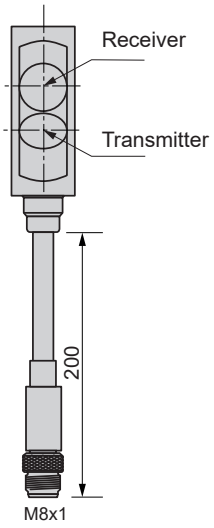


Sub-miniature format: XUT

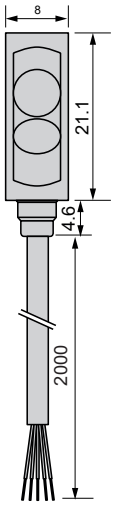
XUT7ABPXP02, XUT7ABPXL2, XUT8ABAYP02, XUT8ABAYL2



XUT●●●●●P02



XUT●●●●L2



Compact format

XUK8ABPXM12

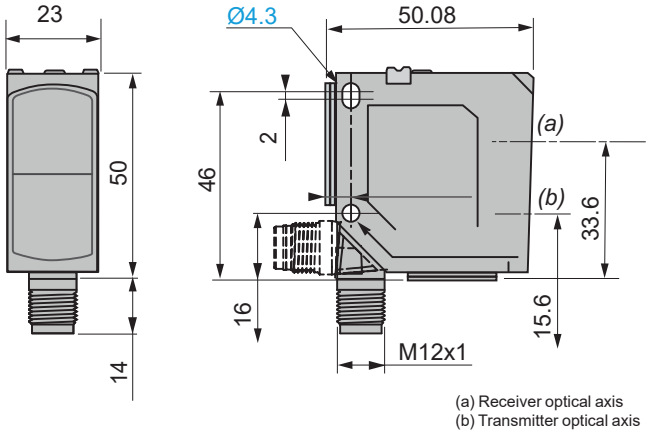


Photo-electric sensors
XU application, for accurate detection
Miniature and sub-miniature design, plastic

XUM5ALAYM8, XUM8ALAYM8, XUM9ALAYM8

XUT8ALAYP02, XUT8ALAYL2, XUT9ALPXP02, XUT9ALPXL2

XUM5ALAYP015, XUM8ALAYP015, XUM9ALAYP015

XUM5ALAYL2, XUM8ALAYL2, XUM9ALAYL2

Laser sensors

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight kg
Diffuse mode detection IO-Link					
250 mm/150 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUM5ALAYL2**	0 045
		Autodetect PNP/NPN	M8 connector (4-pin)	**XUM5ALAYM8**	0 018
		Autodetect PNP/NPN	Pigtail M12 (L= 0 .15 m)	**XUM5ALAYP015**	0 026
BGS mode detection IO-Link					
150 mm/120 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUM8ALAYL2**	0 056
		Autodetect PNP/NPN	M8 connector (4-pin)	**XUM8ALAYM8**	0 018
		Autodetect PNP/NPN	Pigtail M12 (L= 0 .15 m)	**XUM8ALAYP015**	0 027
100 mm/70 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUT8ALAYL2**	0 031
		Autodetect PNP/NPN	Pigtail M8 (L= 0 2 m)	**XUT8ALAYP02**	0 019
Reflex mode detection					
15 m/13 m	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUM9ALAYL2**	0 056
		Autodetect PNP/NPN	M8 connector (4-pin)	**XUM9ALAYM8**	0 018
		Autodetect PNP/NPN	Pigtail M12 (L= 0 .15 m)	**XUM9ALAYP015**	0 027
Reflex mode detection IO-Link					
4 m/3 m	NO/NC configuration via teach-in	PNP	Pre-cabled (L = 2 m)	**XUT9ALPXL2**	0 031
		PNP	Pigtail M8 (L= 0 2 m)	**XUT9ALPXP02**	0 019

Accessories

IO-Link Master *(1)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 2nd quarter 2024.

Photo-electric sensors
XU application, for accurate detection
Miniature and sub-miniature design, plastic

Characteristics

Sensor type				XUM●ALAY●●
Product certifications				CE, UKCA, cULus, Ecolab
Connection	Connector			M8 –
	Pigtail for XUM5, XUM8, XUM9		**m**	Length = 0 .15
	Pigtail for XUT8, XUT9		**m**	Length = 0 20
	Pre-cabled		**m**	Length = 2
Maximum sensing distance Smax	Diffuse mode	XUM5	**mm**	1 . 250
	Background suppression system	XUM8	**mm**	4 . 150
		XUT8	**mm**	6 . 70
	Reflex mode system	XU●9	**mm**	0 .1 . 13
Detection light beam colour				Laser class 1, red
Degree of protection	Conforming to IEC 60529			IP67 for XUM5, XUT8, XUM8, XUT9, XUM9
	Conforming to DIN 40050-9			IP69K for XUM5, XUM8, XUM9 –
Storage temperature			**°C**	-20 . +80
Operating temperature	XUM5, XUM8, XUM9		**°C**	-20 . +60
	XUT8, XUT9		**°C**	-20 . +50
Materials	Case for XUM5, XUM8, XUM9			ABS
	Case for XUT8, XUT9			PUR
	Lens			PMMA
	Front			PMMA
	Cable			PVC
Rated supply voltage			**V**	12 . 24 ⎓
Voltage limits (including ripple)			**V**	10 . 30 ⎓
Current consumption, no-load	XUM5, XUM8, XUM9		**mA**	≤ 30
	XUT8, XUT9		**mA**	≤ 12
Switching capacity	XUM5, XUM8, XUM9		**mA**	≤ 100
	XUT8, XUT9		**mA**	≤ 50
Maximum switching frequency	XUM5, XUM9		**Hz**	4000
	XUT8, XUM8, XUT9		**Hz**	1000
Delays	First-up		**ms**	< 300
	Response		**µs**	≤ 125 for XUM5 125 for XUM9 500 for XUT8, XUT9 ≤ 500 for XUM8
	Recovery		**ms**	< 300

Photo-electric sensors
XU application, for accurate detection
Miniature and sub-miniature design, plastic

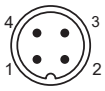
Wiring schemes

Laser sensors

M8/M12 connector - 4-pin - IO-Link

M8

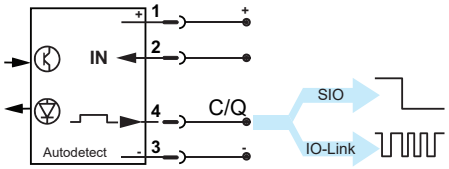
Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V
4	Q	Switching signal (SIO)
	C	Communication (IO-Link)



M12

Autodetect PNP/NPN or by IO-Link

XUM5ALAYM8, XUM5ALAYP015, XUM8ALAYM8, XUM8ALAYP015, XUT8ALAYP02, XUM9ALAYM8, XUM9ALAYP015



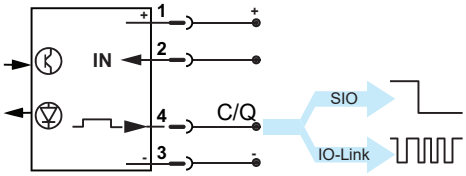
***Note**: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink*

Pre-cabled - 4-wire - IO-Link

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	C	Switching signal (SIO) Communication (IO-Link)

Autodetect PNP/NPN or by IO-Link

XUM5ALAYL2, XUM8ALAYL2, XUT8ALAYL2, XUM9ALAYL2



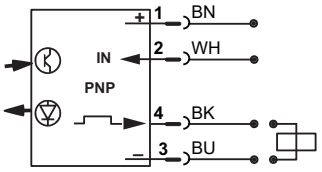
***Note**: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink*

M8 connector - 4-pin

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NC - = NO Open = NO
3	-	0 V ⎓
4	Q	Switching signal

PNP

XUT9ALPXL2, XUT9ALPXP02

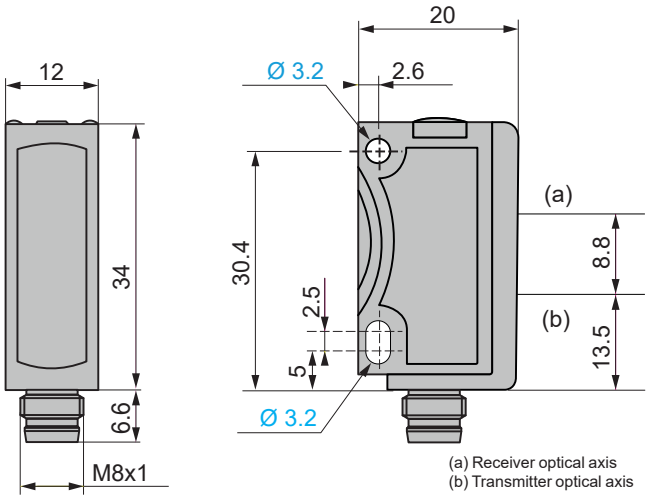


***Note**: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink*

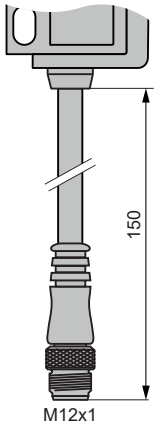
Dimensions

Miniature format: XUM

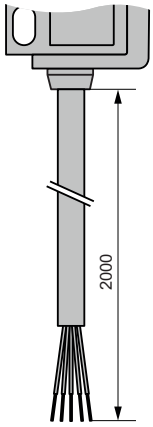
XUM●ALAYM8



XUM●ALAYP015

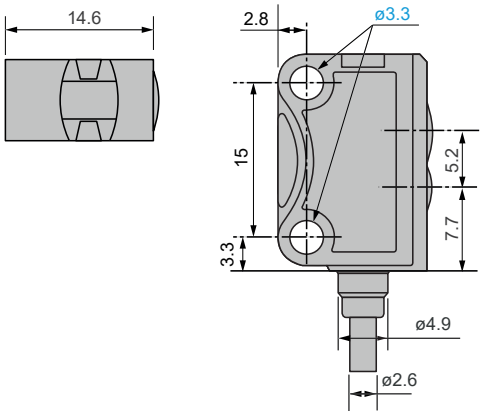


XUM●ALAYL2

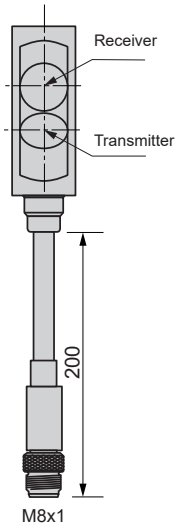


Sub-miniature format: XUT

XUT●●●●●●2



XUT●●●●●P02



XUT●●●●●L2

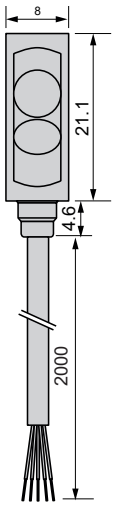
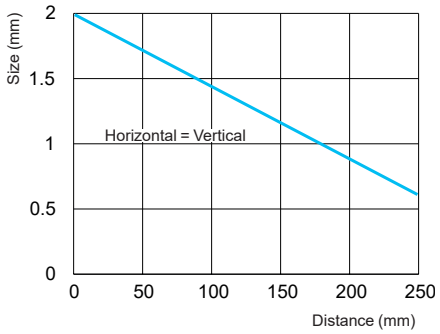


Photo-electric sensors
XU application, for accurate detection
Miniature and sub-miniature design, plastic

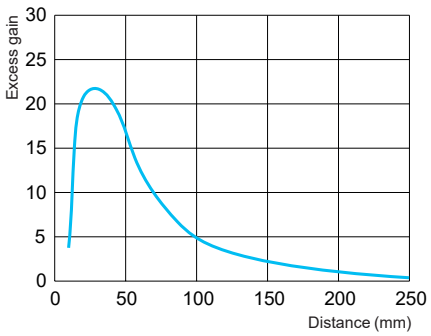
Detection curves

Laser sensor, diffuse mode detection

Light spot size: XUM5ALAY●●

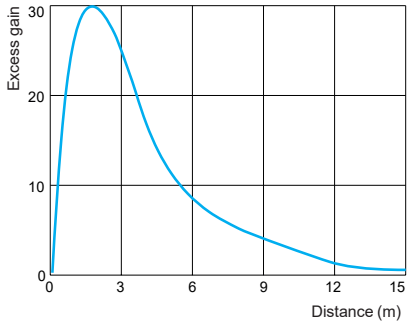


Excess gain: XUM5ALAY●●

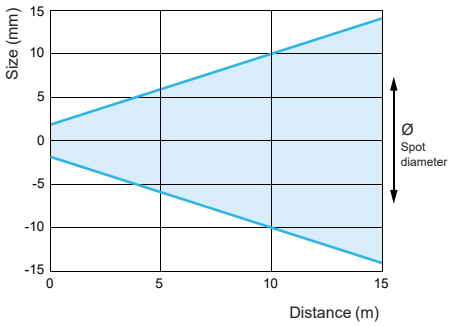


Laser sensor, reflex mode detection: XU●9AL●●

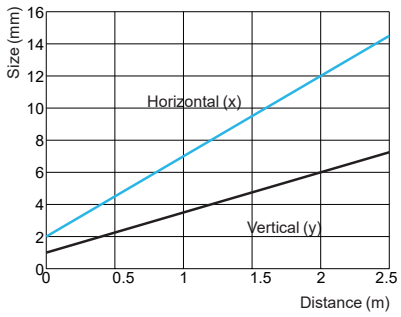
Functional reserves: XUM9ALAY●●



Light spot diameter: XUM9ALAY●●



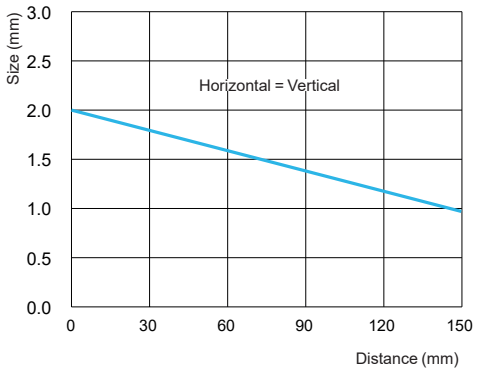
Light spot size: XUT9ALPX●●



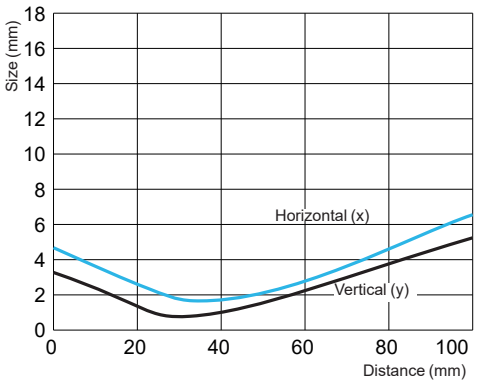
Detection curves

Laser sensor, background suppression mode

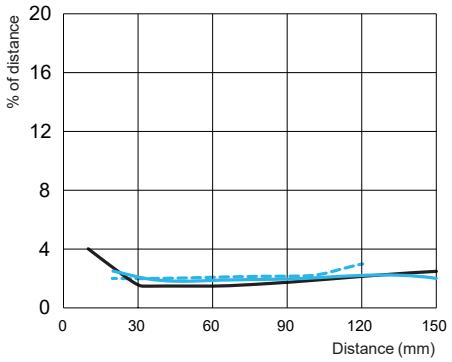
Light spot size: XUM8ALAY●●



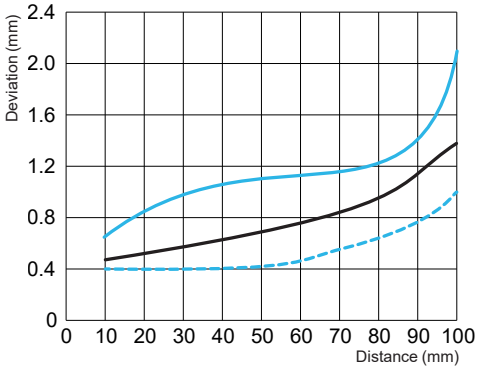
Light spot size: XUT8ALAY●●



Scanning properties: XUM8ALAY●●



Scanning properties: XUT8ALAY●●



Min .distance white object (90%)/white background (90%) (mm)
Min .distance grey object (18%)/white background (90%) (mm)
Min .distance black object (6%)/white background (90%) (mm)

Photo-electric sensors
XU application, for colour object detection
Compact and miniature design, plastic

XUKCBSAYM12

XUKCBLAYM12

XUMRACAYM8

Colour sensors IO-Link

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight kg
White light, multiple colour					
60 mm/30 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	M12 connector (3-output)	**XUKCBSAYM12**	0 017
150 mm/120 mm		Autodetect PNP/NPN	M12 connector (3-output)	**XUKCBLAYM12**	0 017
RGB light, unique colour					
15 mm/12 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUMRACAYM8**	0 018

Accessories

IO-Link Master *(1)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 2nd quarter 2024.

Characteristics

Sensor type				XUKCB●AYM12	XUMRACAYM8
Product certifications				CE, UKCA, cULus	CE, UKCA, cULus, Ecolab
Connection	Connector			M12 (5-pin)	M8 (4-pin)
Maximum sensing distance Smax	White light	XUKC short	**mm**	60	–
		XUKC long	**mm**	150	–
	RGB light	XUMR	**mm**	–	15
Detection light beam colour				White	Red, green and blue
Degree of protection	Conforming to IEC 60529			IP67	
	Conforming to DIN 40050-9			IP69K	
Storage temperature			**°C**	-20 . +80	
Operating temperature			**°C**	-20 . +55	
Materials	Case			Zinc die-cast	ABS
	Lens			PMMA	PMMA
	Front			PMMA	PMMA
	Cable				
Rated supply voltage			**V**	24 ⎓	12 . 24 ⎓
Voltage limits (including ripple)			**V**	18 . 30	10 . 30
Current consumption, no-load			**mA**	≤ 60	≤ 30
Switching capacity			**mA**	≤ 100	
Maximum switching frequency			**Hz**	3000	2500
Delays	First-up		**ms**	300	
	Response		**µs**	≤ 180	≤ 200
	Recovery		**ms**	< 300	–

Photo-electric sensors
XU application, for colour object detection
Compact and miniature design, plastic

Wiring schemes

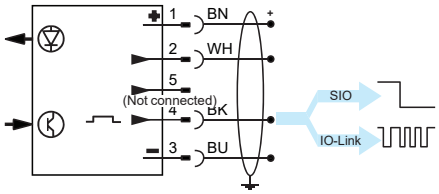
Colour detection system

M12 connector - 5-pin - IO-Link

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	Communication (IO-Link)

Autodetect PNP/NPN or by IO-Link

XUKCB●AYM12, XUMRACAYM8

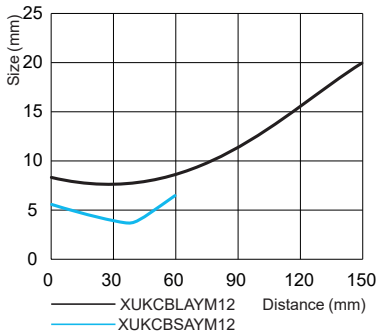


***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

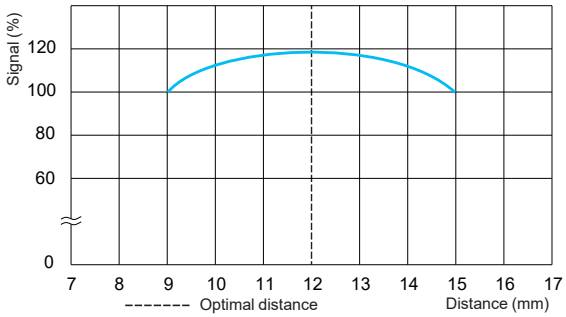
Detection curves

Colour detection system

Light spot size: XUKCBSAYM12 and XUKCBLAYM12

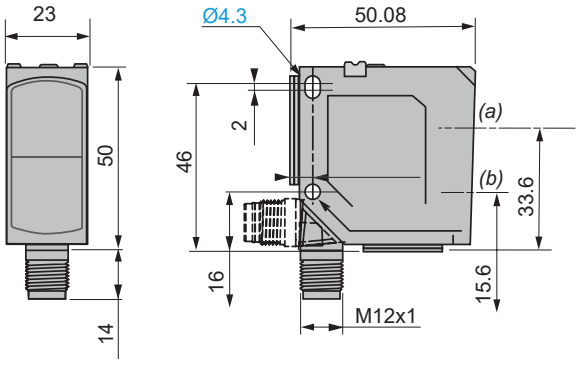


Signal process: XUMRACAYM8



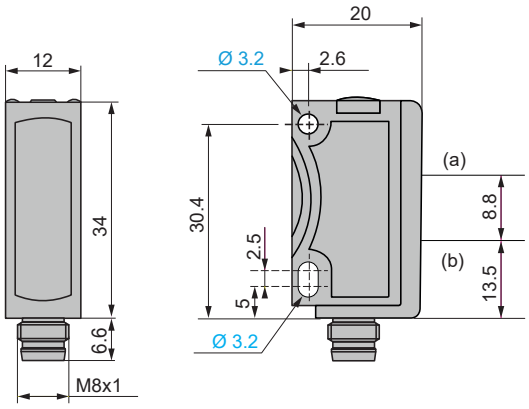
Dimensions

Compact format: XUKCB●AYM12



(a) Receiver optical axis
(b) Transmitter optical axis

Miniature format: XUMRACAYM8



(a) Receiver optical axis
(b) Transmitter optical axis

Photo-electric sensors

XU application, for transparent object detection

Miniature, sub-miniature and compact design, plastic

XUMTARAYM8, XUM7ABPXM8, XUM8ABAYM8

XUMTARAYL2, XUMTARAYP015, XUM7ABPXL2, XUM8ABAYP015

XUT8ABAYL2, XUT8ABAYP02, XUT7ABPXL2, XUT7ABPXP02

XUK8ABPXM12

Sensors for transparent object detection

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight kg
Polarised reflex system IO-Link					
2 m/2 m	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUMTARAYL2**	0 056
		Autodetect PNP/NPN	M8 connector (4-pin)	**XUMTARAYM8**	0 018
		Autodetect PNP/NPN	Pigtail M12 (L= 0 .15 m)	**XUMTARAYP015**	0 027
BGS mode detection, adjustable IO-Link					
200 mm/200 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM8ABAYM8**	0 014
		Autodetect PNP/NPN	Pigtail M12 (L= 0 .15 m)	**XUM8ABAYP015**	0 027
100 mm/100 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pigtail M8 (L= 0 2 m)	**XUT8ABAYP02**	0 019
		Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUT8ABAYL2**	0 031
BGS mode detection, not adjustable					
100 mm/80 mm	NO/NC configuration via teach-in	PNP	Pre-cabled (L = 2 m)	**XUM7ABPXL2**	0 056
		PNP	M8 connector (4-pin)	**XUM7ABPXM8**	0 017
50 mm/50 mm	NO/NC configuration via teach-in	PNP	Pre-cabled (L = 2 m)	**XUT7ABPXL2**	0 031
		PNP	Pigtail M8 (L= 0 2 m)	**XUT7ABPXP02**	0 022
BGS mode detection, compact IO-Link					
1200 mm/1200 mm	NO/NC configuration via teach-in or IO-Link	PNP	M12 connector (4-pin)	**XUK8ABPXM12**	0 046

Accessories

IO-Link Master *(1)*

See page 70 .

Fixing and other accessories

See page 74 .

Cabling accessories

See page 80 .

(1) Available 2nd quarter 2024.

Photo-electric sensors
XU application, for transparent object detection
Miniature, sub-miniature and compact design, plastic

Characteristics

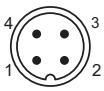
Sensor type				XUMTARAY●●	XU●7ABP●●	XUK8ABP●●	XU●8ABAY●●
Product certifications				CE, UKCA, cULus, Ecolab			
Connection	Connector			M8	M8 (for XUM7)	M12	M8
	Pigtail			Length = 0 .15 m	Length = 0 2 m	–	L = 0 .15 m (XUM8) L = 0 2 m (XUT8)
	Pre-cabled			Length = 2 m	Length = 2 m	–	Length = 2 m
Maximum sensing distance Smax	Polarised reflex system	XUMTA	**m**	0 . 2.	–	–	–
	BGS system, not adjustable	XUM7	**mm**	–	0 . 80	–	–
	BGS system, adjustable	XU●8	**mm**	–	–	White = 3 . 1200 Grey = 5 . 750 Black = 10 . 600	1 . 200 for XUM8 3 . 100 for XUT8
	BGS system, blue light	XUT7	**mm**	–	2 . 50	–	–
Detection light beam colour				Red (LED)	Blue (LED)	Blue (LED)	Blue (LED)
Degree of protection	Conforming to IEC 60529			IP67			
	Conforming to DIN 40050-9			IP69K (except XUT)			
Storage temperature			**°C**	-20 . +80			
Operating temperature			**°C**	-20 . +60	-20 . +50	-20 . +60	
Materials	Case			ABS	ABS for XUM7 PUR for XUT7	ABS/PC	ABS for XUM8 PUR for XUT8
	Lens			PMMA	PMMA	PMMA	PMMA
	Front			PMMA	PMMA	PMMA	PMMA
	Cable			PVC	PVC	–	PVC
Rated supply voltage			**V**	24 ⎓	12 . 24 ⎓	12 . 24 ⎓	12 . 24 ⎓ for XUM 24 ⎓ for XUT
Voltage limits (including ripple)			**V**	10 . 30			
Current consumption, no-load			**mA**	≤ 30	≤ 30 for XUM ≤ 20 for XUT	≤ 30	≤ 30 for XUM ≤ 20 for XUT
Switching capacity			**mA**	≤ 100	≤ 100 for XUM ≤ 50 for XUT	≤ 100	≤ 100 for XUM ≤ 50 for XUT
Maximum switching frequency			**Hz**	1000	1000	600	700
Delays	First-up		**ms**	< 300			
	Response		**µs**	500		830	500 for XUM 700 for XUT
	Recovery		**ms**	< 300			

Photo-electric sensors
XU application, for transparent object detection
Miniature, sub-miniature and compact design, plastic

Wiring schemes

Polarised reflex system

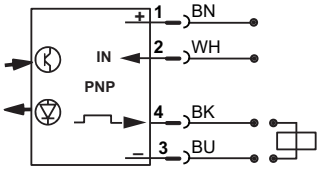
M8/M12 connector - 4-pin - or pre-cabled - 4-wire IO-Link



	Pin	Signal	Definition
M8	1	+	+ 24 V ⎓
	2	IN	+ = NO
			- = NC
			Open = NO
M12	3	-	0 V
	4	Q	Switching signal (SIO)
		C	Communication (IO-Link)

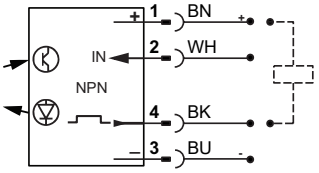
PNP

XUMTARAYL2, XUMTARAYM8, XUMTARAYP015



NPN

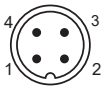
XUMTARAYL2, XUMTARAYM8, XUMTARAYP015



***Note**: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink*

BGS mode detection, adjustable IO-Link

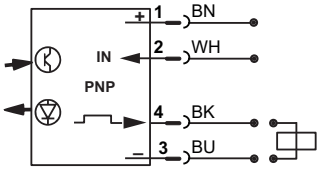
M8/M12 connector - 4-pin- or pre-cabled - 4-wire



	Pin	Signal	Definition
M8	1	+	+ 24 V ⎓
	2	IN	+ = NO
			- = NC
			Open = NO
M12	3	-	0 V ⎓
	4	Q	Switching signal (SIO)
		C	Communication (IO-Link)

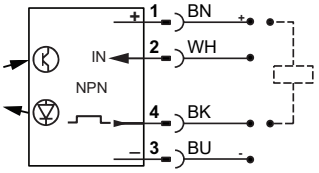
PNP

XUM8ABAYM8, XUM8ABAYP015, XUT8ABAYP02, XUT8ABAYL2



NPN

XUM8ABAYM8, XUM8ABAYP015, XUT8ABAYP02, XUT8ABAYL2



***Note**: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink*

BGS mode detection, not adjustable

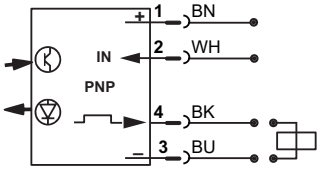
M8 connector - 4-pin- or pre-cabled - 4-wire

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NC
		- = NO
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal

PNP

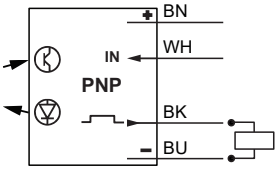
M8 connector

XUM7ABPXM8, XUT7ABPXP02



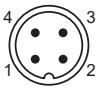
Pre-cabled

XUM7ABPXL2, XUT7ABPXL2



***Note**: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink*

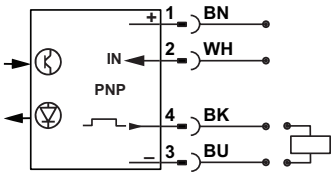
M12 connector - 4-pin



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NC
		- = NO
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal

PNP

XUK8ABPXM12



***Note**: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink*

Photo-electric sensors

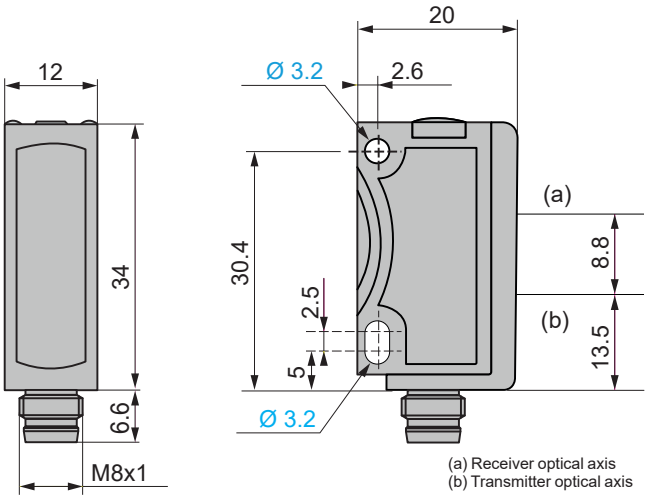
XU application, for transparent object detection

Miniature, sub-miniature and compact design, plastic

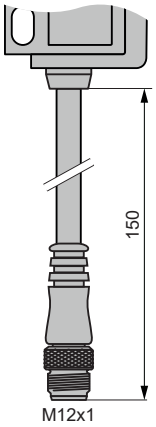
Dimensions

Miniature format: XUM

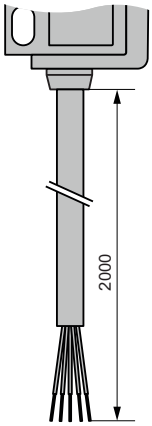
XUM•A•AYM8, XUM•A•AYL2, XUM•A•AYP015, XUM•ABPX••



XUM••••••P015

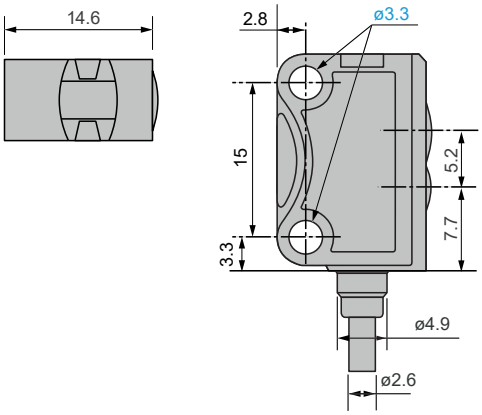


XUM•••••L2

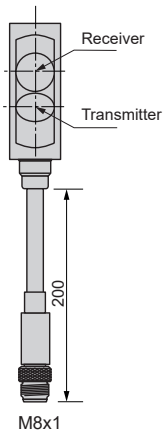


Sub-miniature format: XUT

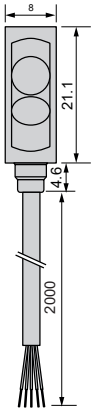
XUT7ABPXP02, XUT7ABPXL2, XUT8ABAYL2, XUT8ABAYP02



XUT••••••P02



XUT•••••L2



Compact format: XUK

XUK8ABPXM12

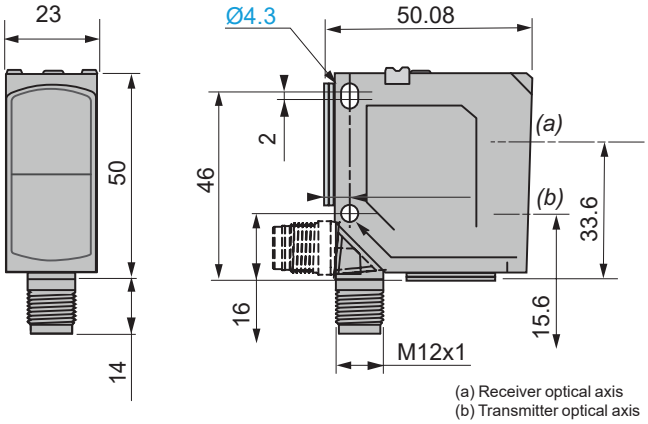


Photo-electric sensors

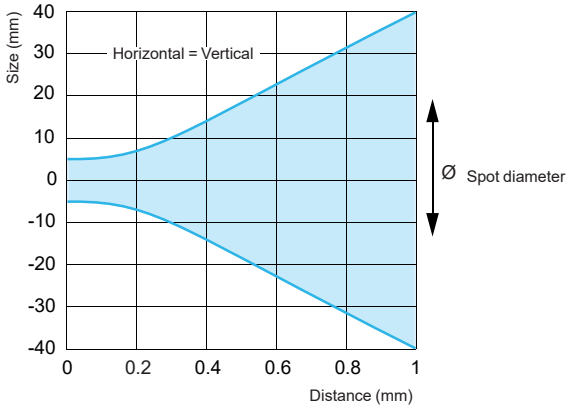
XU application, for transparent object detection

Miniature, sub-miniature and compact design, plastic

Detection curves

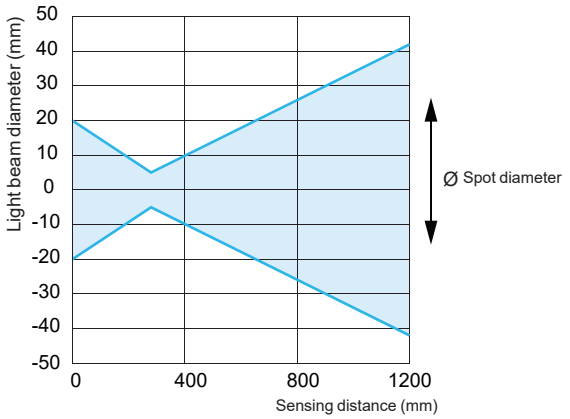
Polarised reflex

Light spot diameter: XUMTARAY●●



Background suppression mode

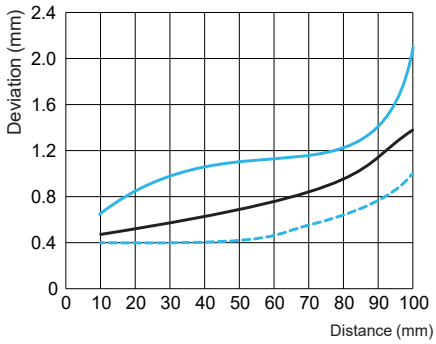
Light spot diameter: XUK8ABPXM12



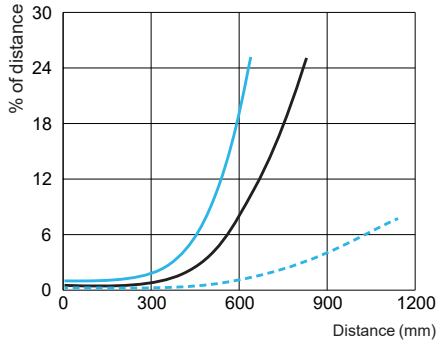
Detection curves

Background suppression mode

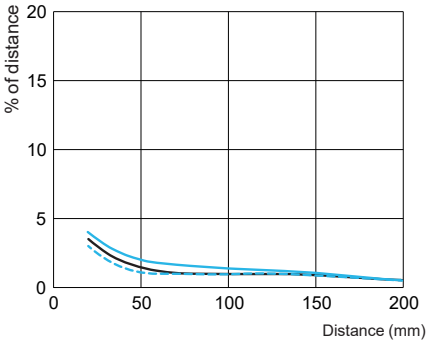
Scanning properties: XUT8ABAY●●



Scanning properties: XUK8ABPXM12

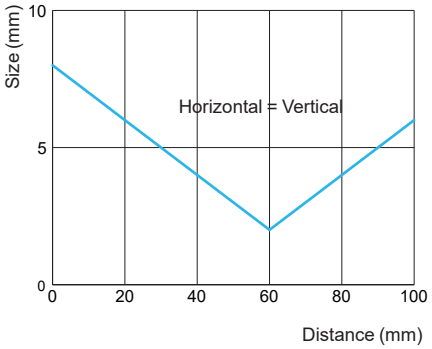


Scanning properties: XUM8ABAY●●

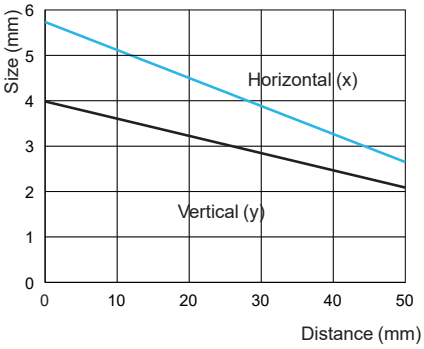


Min .distance white object (90%)/white background (90%) (mm)
Min .distance grey object (18%)/white background (90%) (mm)
Min .distance black object (6%)/white background (90%) (mm)

Light spot size: XUM7ABPX●●



Light spot size: XUT7ABPX●●



Light spot size: XUT8ABAY●●

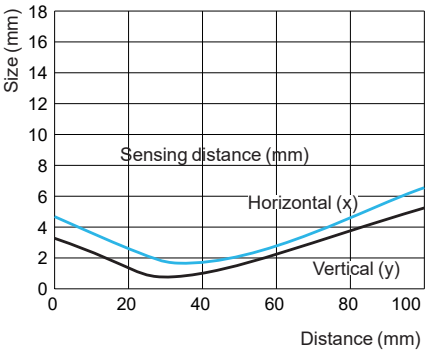


Photo-electric sensors
IO-Link Master *(1)*

XZIOM8AM12PY

Presentation

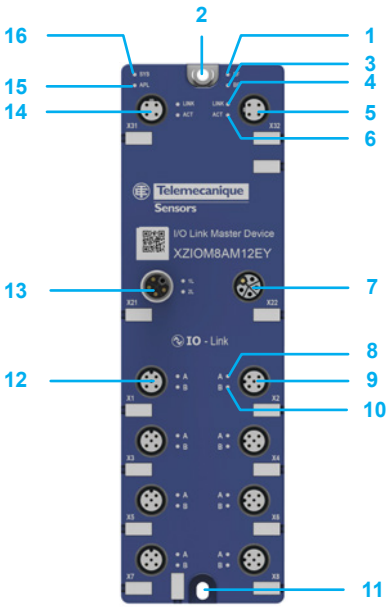
IO-Link is a point-to-point network communication protocol dedicated to sensors and actuators offering advantages such as increased productivity, simplified integration and reduced inventory .

It enables:
- Simplified connection of sensors and actuators to the upper-level control and monitoring system of an automated line
- Advanced diagnostic functions, through continuous monitoring of critical parameters such as signal quality and sensor status
- Reduced commissiong time due to fewer cables and hot swappable devices
- Integration with third-party devices, thanks to multiple fieldbus protocol support (PROFINET, Ethernet/IP)

Telemecanique Sensors offers a wide choice of IO-Link conformant devices, with various detection systems such as thru-beam, diffuse, polarised reflex, etc.

IO-Link system

An IO-Link system consists of the following components:
- IO-Link Master
- IO-Link devices (sensors, RFID readers, valves, motor starters, I/O modules)
- Cabling
- Engineering tool for integration and configuration of IO-Link devices (Simply Config IO-Link Master software *(2)*)



1 For Ethernet, module status LED (MS)
For PROFINET, system error LED (SF)
2 Fixing hole and functional earth (FE)
3 For Ethernet, network status LED (NS)
For PROFINET, bus failure LED (BF)
4 Link LED X32
5 Ethernet interface, M12, D-coded, port 2
6 Activity LED X32
7 Power Out
8 IO-Link status LED, port 2, channel A
9 IO-Link, port 2, M12, A-coded
10 IO-Link status LED, port 2, channel B
11 Fixing hole
12 IO-Link, port 1, M12, A-coded
13 Power In
14 Ethernet interface, M12, D-coded, port 1
15 Application status LED
16 System status LED

Description

IO-Link Masters

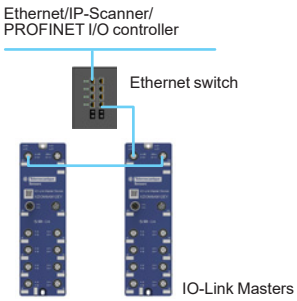
IO-Link Masters serve to capture digital inputs and outputs being conveyed between the PLC and the IO-Link devices .

Two types of IO-Link Master are available:
- **XZIOM8AM12EY** Ethernet Master, for devices connected to an Ethernet/IP network
- **XZIOM8AM12PY** PROFINET Master, for devices connected to a PROFINET network

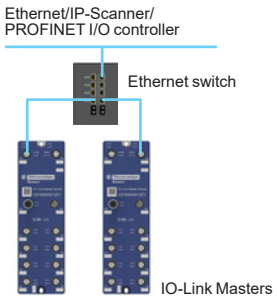
An IO-Link Master enables:
- On the sensor side: IODD file management, sensor configuration, port diagnosis
- On the Master side: Master configuration, firmware update, factory reset, Master diagnosis, MQTT setting

Example of installation in line or star topology

Line topology



Star topology



(1) Available 2nd quarter 2024.
(2) Simply Config IO-Link software can be downloaded from our website.

IO-Link Master devices

Description	Protocol	Power consumption	Number of ports	Connector	Reference	Weight kg
IO-Link Master	Ethernet/IP	24V ⎓	8 class A	M12	**XZIOM8AM12EY**	0.405
	PROFINET	24V ⎓	8 class A	M12	**XZIOM8AM12PY**	0.405

IO-Link power cables

Description	Type of connector	End fittings	Length m		Reference	Weight kg
Single-ended, pre-wired, L-coded power cable (PUR)	Female	5-pin (4+FE)	2	1.5 mm²	**XZCPK75DL2**	0.255
			5	1.5 mm²	**XZCPK75DL5**	0.585
			2	1.5 mm²	**XZCPK75CL2**	0.255
			5	1.5 mm²	**XZCPK75CL5**	0.585
Jumper power cable (PUR)	Male/ Female	M12 5-pin/M12 5-pin	2	1.5 mm²	**XZCR25K25DL2**	0.285
			5	1.5 mm²	**XZCR25K25DL5**	0.615
			2	1.5 mm²	**XZCR26K26CL2**	0.285
			5	1.5 mm²	**XZCR26K26CL5**	0.615

XZCPK75●L

XZCR26K26●L

Dimensions

XZIOM8AM12●Y

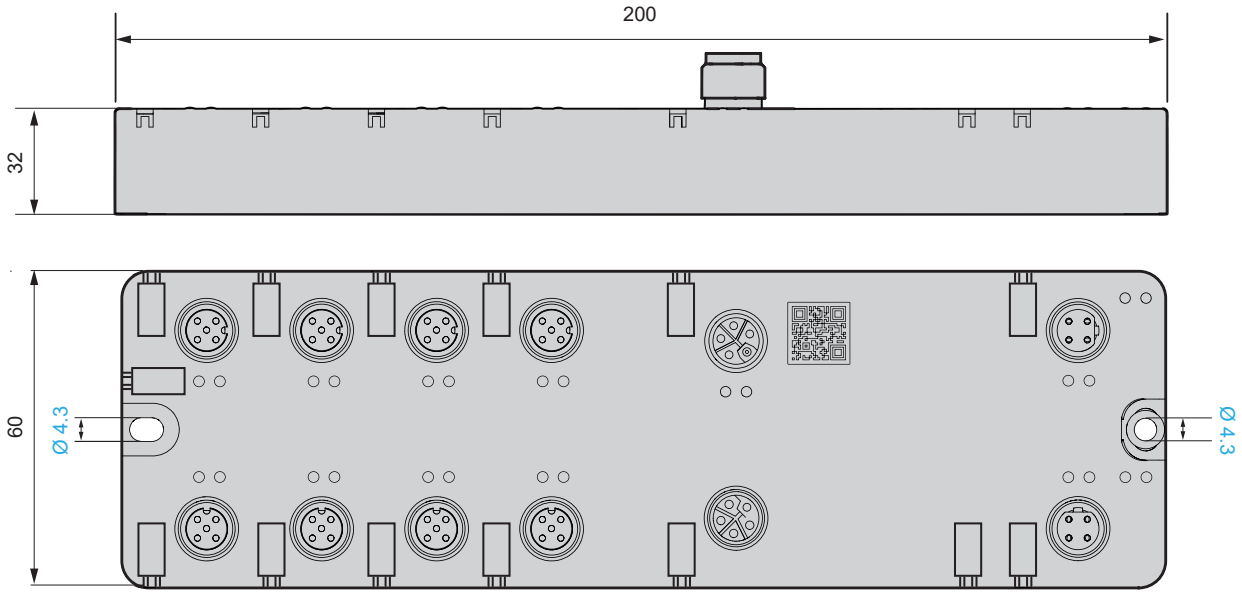


Photo-electric sensors
IO-Link Master

Product specifications

Reference			XZIOM8AM12EY	XZIOM8AM12PY
Function			Ethernet/IP IO-Link Master	ProfiNet IO-Link Master
Power supply 1L, 2L	Supply voltage 1L, 2L	**V**	⎓ 24, –25%/+30% (18…31 2)	
	Low voltage warning 1L	**V**	18.0 (± 5% at 25 °C) notification on,18.3 (± 5% at 25 °C) notification off	
	Overvoltage warning 1L	**V**	30.0 (± 5% at 25 °C) notification on, 29.7 (± 5% at 25 °C) notification off	
	Current consumption	**A**	1L: 0 1 . 16 (at 24 V DC) 2L: 0 01 . 16 (at 24 V DC)	
	Current consumption of supply port	**A**	Max. 16	
	Conductor cross-section	**mm²**	0 5…2 5	
	Connector		PWR IN: M12 L-coded, 5-pin, plug PWR OUT: M12 L-coded, 5-pin, socket	
	Torque	**Nm**	1 0	
	Reverse polarity protection		Yes	
	Power supply	**V**	24 ⎓ PELV (Protective Extra Low Voltage) or SELV (Safety Extra Low Voltage)	
Total load	Maximum total load current	**A**	15 7	
Device	Dimensions (L x W x H)	**mm**	200 x 60 x 32	
	Weight	**g**	404	
	Housing		Plastic	
	Potting		Solvent-free electro-casting resin system based on 2 K polyurethane	
	Degree of protection		IP67 (EN 60529)	
	Protection class		III (EN 61140)	
	Mounting		Screw mounting on carrier, 2x M4	
Environmental conditions	Location of operation		Indoor	
	Ambient temperature (operation)	**°C**	-25 . +70	
	Ambient temperature (storage)	**°C**	-40 . +80	
	Maximum temperature change	**K/min**	3	
	Relative humidity		5% . 95%	
	Degree of pollution		3 (EN 60664-1)	
	Altitude	**m**	0…2000	
	Overvoltage category		II (EN 60664-1)	
	Degree of protection		IP67 (EN 60529)	
	Protection class		III (EN 61140)	
Electrical characteristics	Insulation resistance	**V**	60 ⎓	
	Test voltage	**V**	550 ∿ RMS	
	Minimal creepage distance	**mm**	0 7	
Ethernet connector	Communication interface		Ethernet	
	Autonegotiation, autocrossover		Yes	
	Connector		2x M12, D-coded, socket, 4-pin	
	Torque	**Nm**	1 0	
IO-Link connector	Connector		8x M12, A-coded, plug, 5-pin	
	Torque	**Nm**	1 0	
	Operating modes		Pin 2: DI or DO Pin 4: IO-Link Master, DI or DO	
LEDs	SYS		System status, green/yellow	
	APL		Application status, red/green	
	MS		Module status (EtherNet/IP), red/green	-
	SF		-	System error (PROFINET), red
	NS		Network status (EtherNet/IP), red/green	-
	BF		-	Bus error (PROFINET), red
	LINK		Link status, green	
	ACT		Activity status, yellow	
	1L, 2L		Supply voltage status, red/green	
	A, B		Port status: red/green/yellow (yellow by simultaneous red and green)	
Compliance	RoHS		Yes	
Compliance with EMC guidelines	CE sign		Yes	
	UKCA sign		Yes	
	Emission		EN 61000-6-4/BS EN 61000-6-4	
	Immunity		EN 61000-6-2/BS EN 61000-6-2	

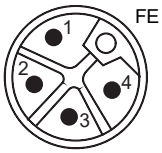
Photo-electric sensors
IO-Link Master

Wiring schemes

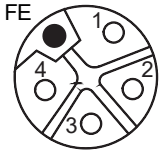
Power supply

M12 connector - 5 pins (4 + FE) - IO-Link

Supply voltage input



Supply voltage input

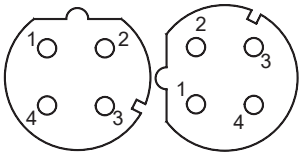


Pin	Signal	Wire colour	Description
1	1L+	Brown	24 V ⎓
2	2L-	White	Reference potential for 2L
3	1L-	Blue	Reference potential for 1L
4	2L+	Black	24 V ⎓ auxiliary/ control voltage U2L
FE	FE	Pink	Functional earth

Communication

M12 connector - D-coded - socket - 4 pins

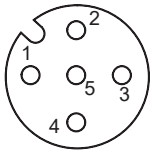
Ethernet



Pin	Signal	Wire colour	Description
1	TX+	Brown	Transmit data positive
2	RX+	White	Receive data positive
3	TX-	Blue	Transmit data negative
4	RX-	Black	Receive data negative

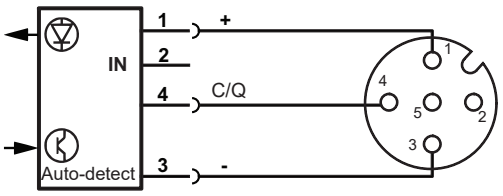
IO-Link ports (Class A)

M12 connector - 4 pins



Pin	Signal	Wire colour	Description
1	+	Brown	+24 V DC supply voltage U 1L for sensor/actuator
2	IN	White	Digital input/output channel B
3	-	Blue	Functional earth for 1L+
4	Q	Black	IO-Link data or Digital input/output channel A
5	-	-	Not connected

Auto-detect PNP/NPN or by IO-Link IO-Link



Derating curves

XZIOM8AM12EY and XZIOM8AM12PY

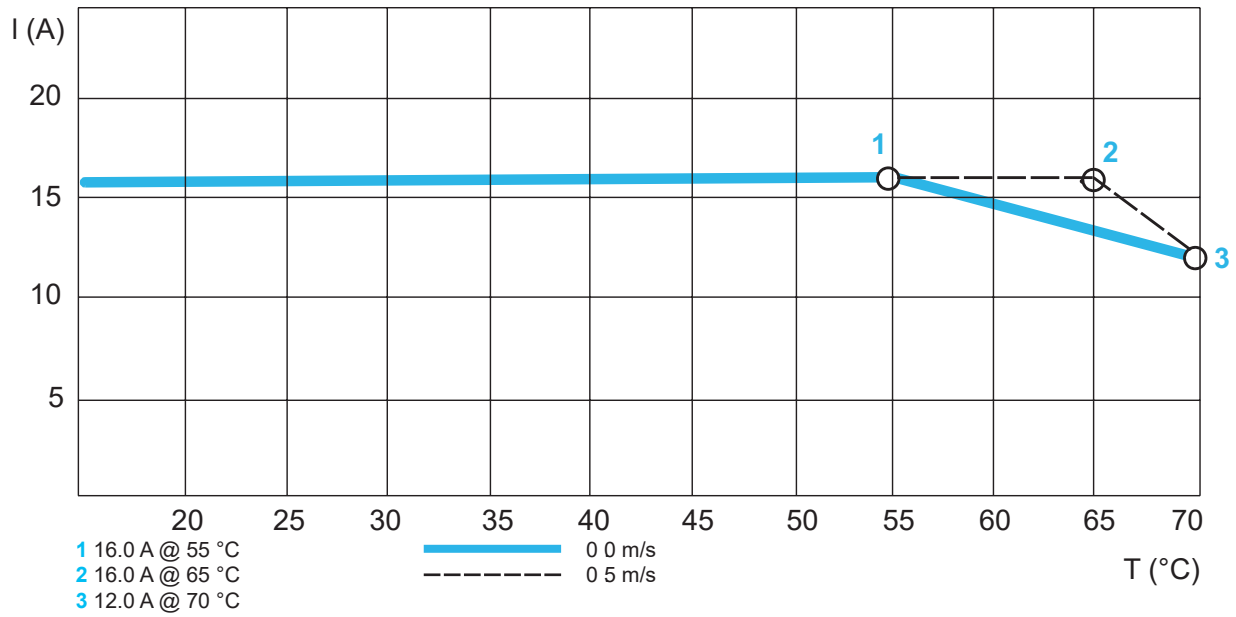


Photo-electric sensors
XU general purpose, single mode function
Accessories
Fixing brackets


XUZASM02


XUZASM03


XUZASM04


XUZASN001


XUZASN002


XUZA50


XUZA51S


XUZASK001


XUZASW001


XUZASW002


XUZA118


XUZA218


XUZARS


XUZASS


XUZARM


XUZARK


XUZASB001


XUZASB002


XUZASB003

Fixing accessories

Fixing brackets

Description	For use with sensors	Reference	Weight kg
Wrap-around horizontal mounting bracket for pre-cabled sensors Supplied with 2 x M3 screws	XUM●A●XBL2	**XUZASM02**	0 030
Wrap-around vertical mounting bracket for pre-cabled sensors Supplied with 2 x M3 screws	XUM●A●XBL2	**XUZASM03**	0 062
Rear mounting bracket Supplied with 2 x M3 screws	XUM●A●XBL2, XUM●A●XBM8	**XUZASM04**	0 030
Stainless steel grade 316 fixing bracket Supplied with 2 x M3 screws	XUN	**XUZASN001**	0 124
Wrap-around vertical mounting bracket for pre-cabled sensors Supplied with 2 x M3 screws	XUN	**XUZASN002**	0 133
Metal fixing bracket Supplied with 2 x M3 screws	XUM, XUT, XUK	**XUZA50**	0 025
Stainless steel grade 316 fixing brackets Supplied with 2 x M3 screws	XUK8ABPXM12	**XUZA51S**	0 050
Stainless steel grade 304 fixing bracket for compact sensor 50 x 50 mm Supplied with 2 x M3 screws	XUK8ABPXM12	**XUZASK001**	0 240
Metal dovetail fixing clamp, 1 axis Supplied with 1 x M3 screw	XUK8ABPXM12	**XUZASW001**	0 014
Simple metal fixing bracket Supplied with 2 x M3 screws	XUK8ABPXM12	**XUZASW002**	0 017
90° stainless steel fixing brackets	XUB	**XUZA118**	0 045
Plastic fixing bracket with adjustable ball joint	XUB	**XUZA218**	0 035
Dovetail clamp Supplied with 2 x M3 screws	XUT7ABPX●●, XUT8A●AY●●, XUT9ABPX●●	**XUZARS**	0 005
Mounting bracket Supplied with 2 x M3 screws	XUT7ABPX●●, XUT8A●AY●●, XUT9ABPX●●	**XUZASS**	0 008
Dovetail clamp Supplied with 2 x M3 screws	XUM●A●AYM8, XUM●A●AYP015, XUM●A●AYL2, XUM7ABPX●●	**XUZARM**	0 017
Dovetail clamp Supplied with 1 x M3 screw	XUKCB●AYM12, XUK8ABPXM12	**XUZARK**	0 026

Mounting rings

Description	For use with sensors	Reference	Weight kg
Stainless steel flush mounting nut	XUB	**XUZASB001**	0 018
Plastic mounting ring **27 mm x 16.8 mm**	XUB	**XUZASB002**	0 003
Metal mounting ring **30 mm x 18 mm**	XUB	**XUZASB003**	0 011

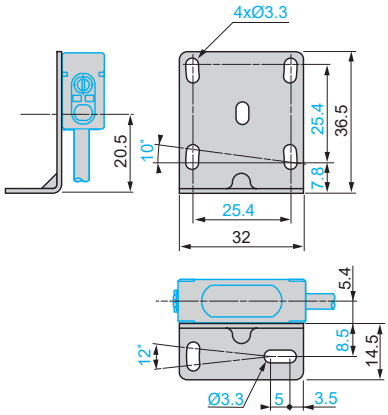
Cabling accessories

See pages 80 to 85 .

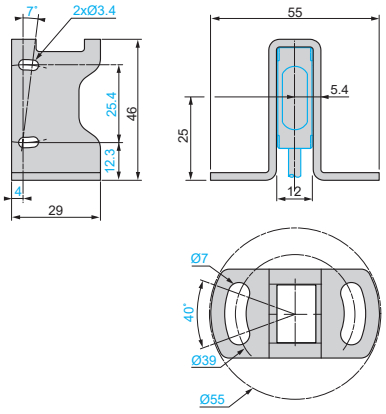
Fixing accessories

Fixing brackets

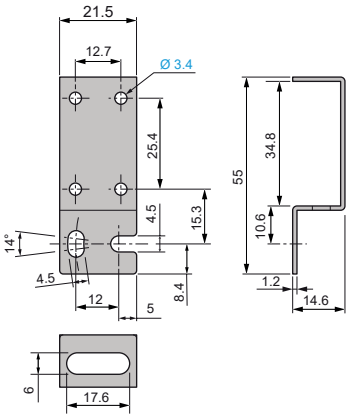
XUZASM04



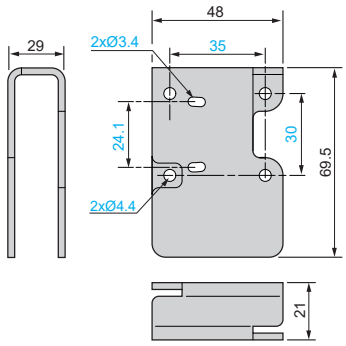
XUZASM03



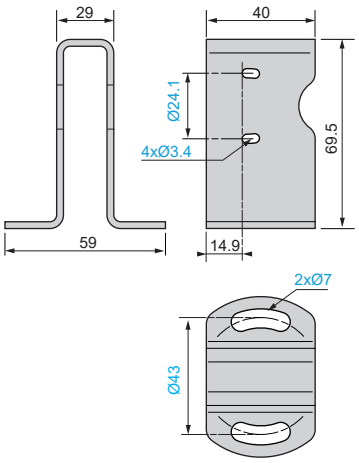
XUZASM02



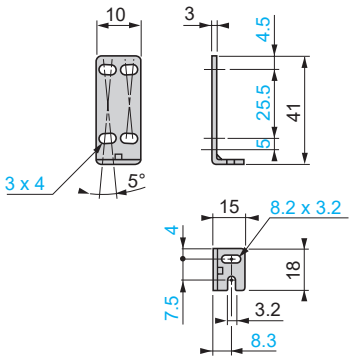
XUZASN001



XUZASN002



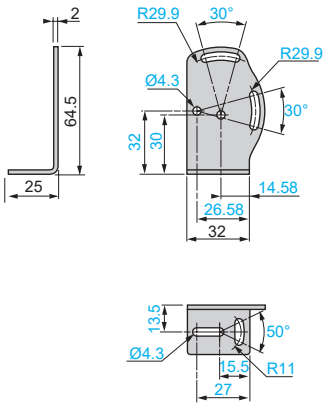
XUZA50



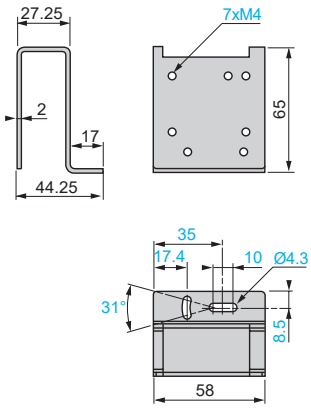
Fixing accessories

Fixing brackets

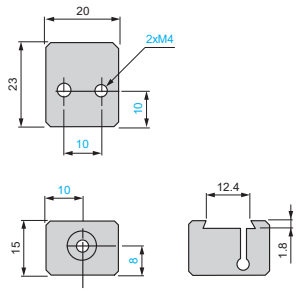
XUZA51S



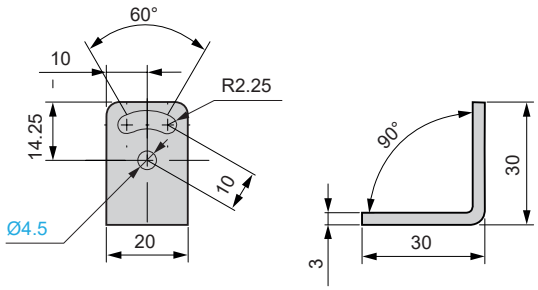
XUZASK001



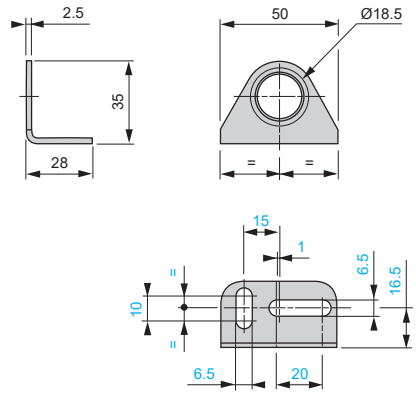
XUZASW001



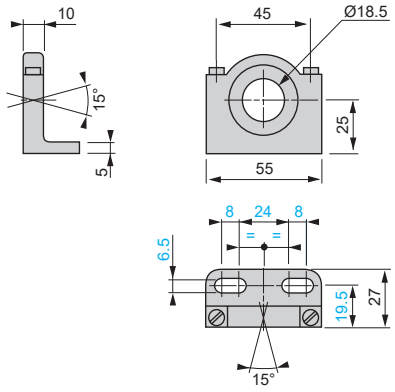
XUZASW002



XUZA118



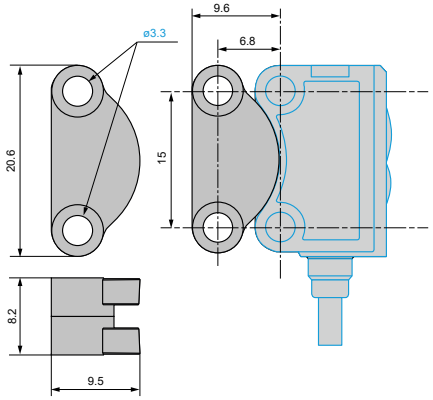
XUZA218



Fixing accessories

Fixing brackets

XUZARS



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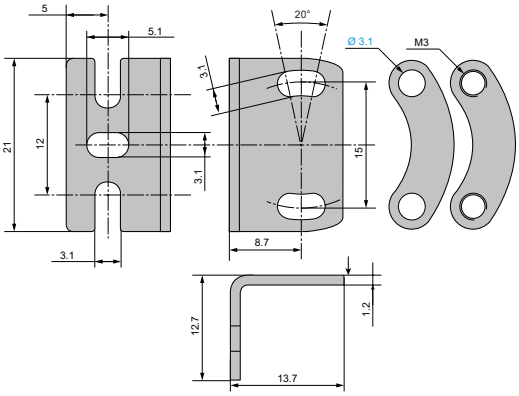

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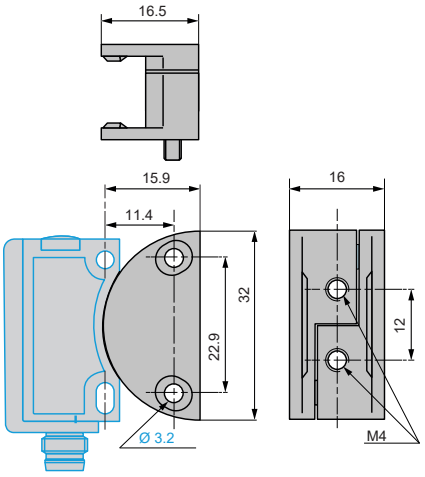
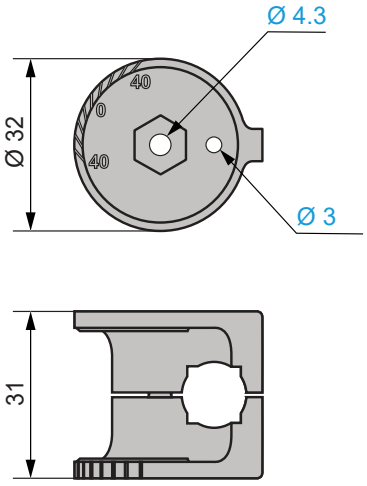
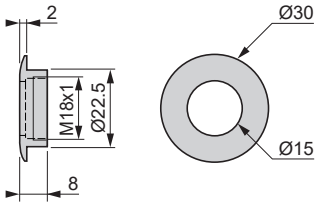


XUZARK

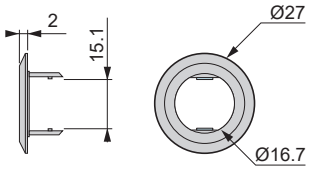


Mounting rings

XUZASB001



XUZASB002



XUZASB003

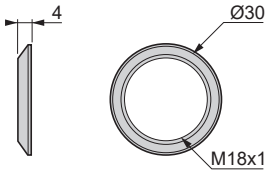


Photo-electric sensors
XU general purpose, single mode function
Accessories
Reflectors

XUZC50_30

XUZC50

XU_511_PFJR18019

XUZC60S11

XU_511_PFJR18005

XUZC39

Reflectors

References

Description	Size	Fixing mode	Reference	Weight kg
Rigid square reflectors	100 mm x 100 mm	2 brackets (not provided)	**XUZC100**	0 035
	51.5 mm x 69 mm	6 holes	**XUZC50**	0 020
Rigid rectangle reflectors	45 mm x 29 mm	2 holes	**XUZC24**	0 010
	40 mm x 60 mm	2 holes	**XUZC60S11**	0 022
Rigid circular reflectors	Ø 39 mm	Adhesive	**XUZC39**	0 008

Cabling accessories

See pages 80 to 85 .

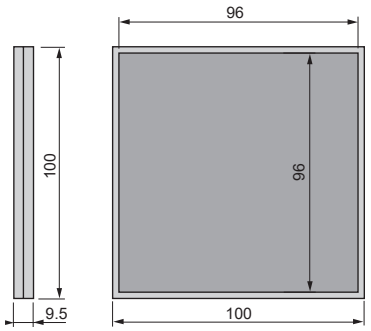
Photo-electric sensors

XU general purpose, single mode function
Accessories
Reflectors

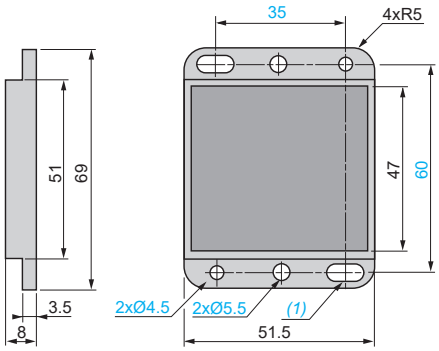
Reflectors

Dimensions

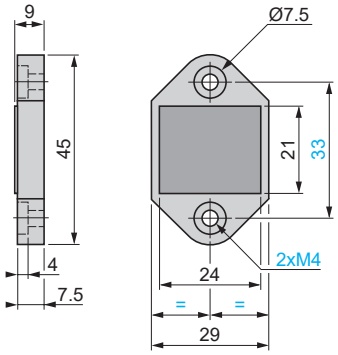
XUZC100



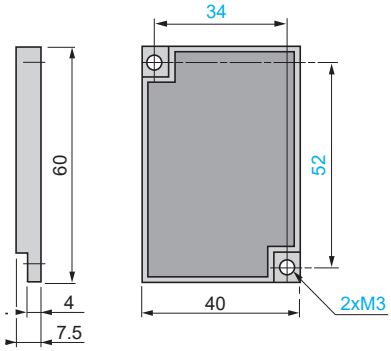
XUZC50



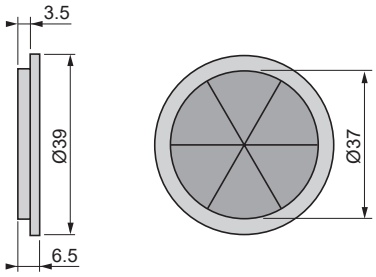
XUZC24



XUZC60S11



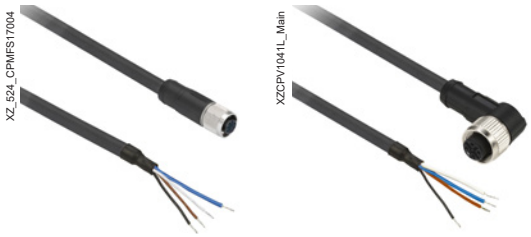
XUZC39



(1) 2 elongated holes Ø 4.5 x 8

***Note**: All reflectors are IP 67 and IP 69K.*

Photo-electric sensors
Cables for sensors
Pre-wired connectors



Pre-wired M8 connector, 4 conductors

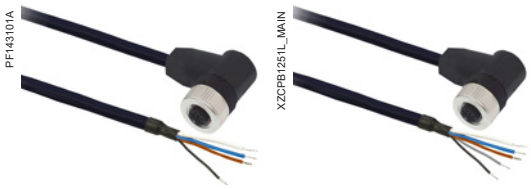
PVC cables with pre-wired connector

Description	Connector type	End fittings	Length (m)	For use with sensor	Reference	Weight kg
M8 connector						
Pre-wired M8 connectors	Female, straight	4-pin	2	XUM●●●●M8, XUT●●●●M8	**XZCPV0941L2**	0 090
			5		**XZCPV0941L5**	0 200
			10		**XZCPV0941L10**	0 380
	Female, elbowed		2		**XZCPV1041L2**	0 090
			5		**XZCPV1041L5**	0 200
			10		**XZCPV1041L10**	0 380
M12 connector						
Pre-wired M12 connectors	Female, straight	4-pin	2	XUM●●●●M12, XUM●●●●P015, XUN●●●●M12, XUB●●●●M12, XUT●●●●M12	**XZCPV1141L2**	0 090
			5		**XZCPV1141L5**	0 200
			10		**XZCPV1141L10**	0 380
	Female, elbowed		2		**XZCPV1241L2**	0 090
			5		**XZCPV1241L5**	0 200
			10		**XZCPV1241L10**	0 380

Pre-wired M12 connector, straight, 4 conductors (left) and 5 conductors (right)

PUR cables with pre-wired connector

Description	Connector type	End fittings	Length (m)	For use with sensor	Reference	Weight kg
M8 connector						
Pre-wired M8 connectors	Female, straight	4-pin	2	XUM●●●●M8, XUT●●●●M8	**XZCP0941L2**	0 080
			5		**XZCP0941L5**	0 180
			10		**XZCP0941L10**	0 360
	Female, elbowed		2		**XZCP1041L2**	0 080
			5		**XZCP1041L5**	0 180
			10		**XZCP1041L10**	0 360
M12 connector						
Pre-wired M12 connectors	Female, straight	4-pin	2	XUM●●●M12, XUM●●●●P0●, XUN●●●●M12, XUB●●●●M12, XUK●●●●M12	**XZCP1141L2**	0 090
			5		**XZCP1141L5**	0 190
			10		**XZCP1141L10**	0 370
	Female, elbowed		2		**XZCP1241L2**	0 090
			5		**XZCP1241L5**	0 190
			10		**XZCP1241L10**	0 370
M12 connector, shielded						
Shielded pre-wired connectors M12	Female, straight	4-pin	2	XUM●●●●M12, XUM●●●●P0●, XUN●●●●M12, XUB●●●●M12, XUK●●●●M12	**XZCPB1141L2**	0 200
			5		**XZCPB1141L5**	0 350
		5-pin	2	XUKC●●●●	**XZCPB1151L2**	0 114
			5		**XZCPB1151L5**	0 259
	Female, elbowed		2		**XZCPB1251L2**	0 113
			5		**XZCPB1251L5**	0 258



Pre-wired M12 connector, elbowed, 4 conductors (left) and 5 conductors (right)

Photo-electric sensors
Cables for sensors
Jumper cables

Jumper cables, M12-M12 connectors, 4-pin/4-pin

PVC jumper cables

Description	Connector type		End fittings	Length (m)	For use with sensor	Reference	Weight kg
	Male	Female					
M12-M12 connectors							
PVC jumper cable XZ	M12, straight	M12, straight	4-pin/ 4-pin	1	XUM●●●●M12, XUM●●●●P015, XUN●●●●M12, XUB●●●●M12, XUT●●●●M12	**XZCRV1511041C1**	0 070
				2		**XZCRV1511041C2**	0 110
				5		**XZCRV1511041C5**	0 230
		M12, elbowed		1		**XZCRV1512041C1**	0 070
				2		**XZCRV1512041C2**	0 110
				5		**XZCRV1512041C5**	0 230

PUR jumper cables

Description	Connector type		End fittings	Length (m)	For use with sensor	Reference	Weight kg
	Male	Female					
Shielded, M12-M12 connectors							
PUR jumper cable XZ	M12, straight	M12, straight	5-pin/ 5-pin	2	XUCK●●●●	**XZCRB151151C2**	0 123
				5		**XZCRB151151C5**	0 267

Shielded jumper cables, M12-M12 connectors, 5-pin/5-pin

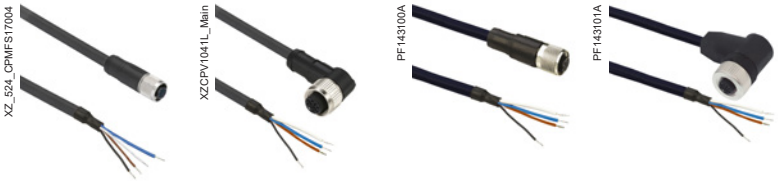
Jumper cables, M8-M8 connectors, 3-pin/3-pin

Jumper cables, M8-M8 connectors, 3-pin/4-pin

Jumper cables, M8-M12 connectors, 3-pin/5-pin

M8-M8 connectors							
PUR jumper cable XZ	M8, straight	M8, straight	3-pin/ 3-pin	1	XUM●●●●M8, XUT●●●●M8	**XZCR2705037R1**	0 065
				2		**XZCR2705037R2**	0 090
		M8, elbowed		1		**XZCR2706037R1**	0 065
PUR jumper cable XZ	M8, straight	M8, straight	3-pin/ 4-pin	2	XUM●●●●M8, XUT●●●●M8	**XZCR2709037S2**	0 090
		M8, elbowed		1		**XZCR2710037S1**	0 065
				2		**XZCR2710037S2**	0 090
M8-M12 connectors							
PUR jumper cable XZ	M8, straight	M12, straight	3-pin/ 5-pin	1	XUM●●●●M8, XUT●●●●M8	**XZCR2711037T1**	0 065
				2		**XZCR2711037T2**	0 093
		M12, elbowed		1		**XZCR2712037T1**	0 065
				2		**XZCR2712037T2**	0 093

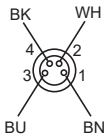
Photo-electric sensors
Cables for sensors, PVC
Pre-wired connectors M8 and M12, 4-pin



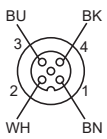
Connector type		Female, M8, straight	Female, M8, elbowed	Female, M12, straight	Female, M12, elbowed
Number of conductors		4			
References					
PVC cable	L = 2 m	**XZCPV0941L2**	**XZCPV1041L2**	**XZCPV1141L2**	**XZCPV1241L2**
	L = 5 m	**XZCPV0941L5**	**XZCPV1041L5**	**XZCPV1141L5**	**XZCPV1241L5**
	L = 10 m	**XZCPV0941L10**	**XZCPV1041L10**	**XZCPV1141L10**	**XZCPV1241L10**
Weight (kg)		0 090 (L = 2 m) 0 200 (L = 5 m) 0 380 (L = 10 m)			
Characteristics					
Certifications		cULus			
Connection type		Screw threaded (metal clamping ring)			
Cable material	Sheath	PVC			
	Conductor insulation	PP			
Degree of protection		IP65, IP67			
Ambient air temperature	Static cable	-25…+80 °C			
	Flexing cable	-5…+80 °C			
Conductor c.s.a		4 x 0.25 mm^2			
Cable diameter		4 6 mm			
Nominal voltage		60 V ∿, 75 V ⎓		250 V ∿, 300 V ⎓	
Nominal current		3 A			
Insulation resistance		> 10^9 Ω			
Contact resistance		≤ 5 m Ω			

Connections

XZCPV0941L●, XZCPV1041L●



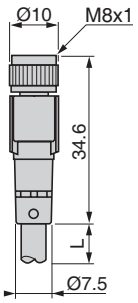
XZCPV1141L●, XZCPV1241L●



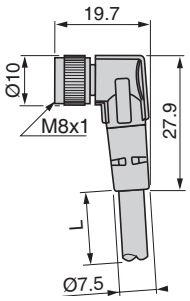
BN: Brown
WH: White
BU: Blue
BK: Black

Dimensions

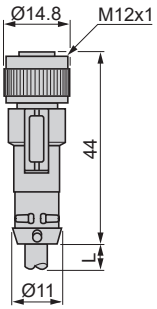
XZCPV0941L●



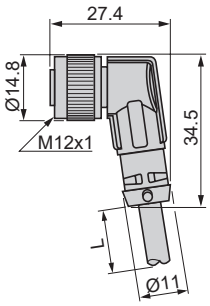
XZCPV1041L●



XZCPV1141L●



XZCPV1241L●



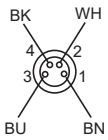
L = 2, 5 or 10 m

Photo-electric sensors
Cables for sensors, PVC
Pre-wired connectors M8 and M12, 4-pin

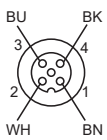
Connector type		Female, M8, straight	Female, M8, elbowed	Female, M12, straight	Female, M12, elbowed
Number of conductors		4			
References					
PUR cable	L = 2 m	**XZCP0941L2**	**XZCP1041L2**	**XZCP1141L2**	**XZCP1241L2**
	L = 5 m	**XZCP0941L5**	**XZCP1041L5**	**XZCP1141L5**	**XZCP1241L5**
	L = 10 m	**XZCP0941L10**	**XZCP1041L10**	**XZCP1141L10**	**XZCP1241L10**
Weight (kg)		0 080 (L = 2 m) 0 180 (L = 5 m) 0 360 (L = 10 m)		0 090 (L = 2 m) 0 190 (L = 5 m) 0 370 (L = 10 m)	
Characteristics					
Certifications		cULus			
Connection type		Screw threaded (metal clamping ring)			
Cable material	Sheath	PUR			
	Conductor insulation	PP			
Degree of protection		IP65, IP67, IP69K			
Ambient air temperature	Static cable	-40…+80 °C			
	Flexing cable	-5…+80 °C			
Conductor c.s.a.		4 x 0.34 mm^2			
Cable diameter		5 2 mm			
Nominal voltage		60 V ∼, 75 V ⎓		250 V ∼, 300 V ⎓	
Nominal current		4 A			
Insulation resistance		> 10^9 Ω			
Contact resistance		≤ 5 m Ω			

Connections

XZCP0941L●, XZCP1041L●



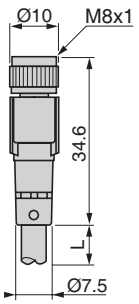
XZCP1141L●, XZCP1241L●



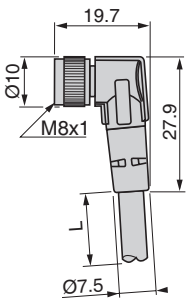
BN: Brown
WH: White
BU: Blue
BK: Black

Dimensions

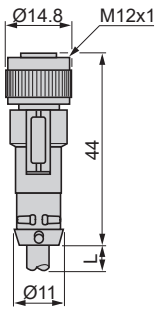
XZCP0941L●



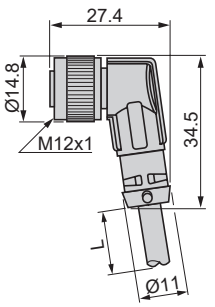
XZCP1041L●



XZCP1141L●



XZCP1241L●



L = 2, 5 or 10 m

Photo-electric sensors

Cables for sensors, PUR shielded
Pre-wired connectors M12, 4-pin

Connector type		Female, M12, straight
Number of conductors		4

References

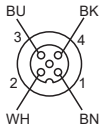
PUR cable	L = 2 m	**XZCPB1141L2**
	L = 5 m	**XZCPB1141L5**
Weight (kg)		0 200 (L = 2 m) 0 350 (L = 5 m)

Characteristics

Certifications		cULus
Connection type		Screw threaded (metal clamping ring)
Cable material	Sheath	PUR, shielded
	Conductor insulation	PP
Degree of protection		IP65, IP67
Ambient air temperature	Static cable	-25…+80 °C
	Flexing cable	-5… +80 °C
Conductor c.s.a.		4 x 0.34 mm²
Cable diameter		5 9 mm
Nominal voltage		250 V ∿, 300 V ⎓
Nominal current		4 A
Insulation resistance		1 GΩ
Contact resistance		5000 µOhm

Connections

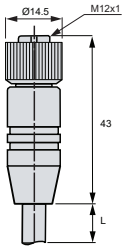
XZCPB1141L●



BN: Brown
WH: White
BU: Blue
BK: Black

Dimensions

XZCPB1141L●



L = 2 or 5 m

Photo-electric sensors

Cables for sensors, PUR shielded
Pre-wired connectors M12, 5-pin

Connector type		Female, M12, straight	Female, M12, elbowed
Number of conductors		5	

References

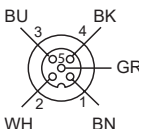
PUR cable	L = 2 m	**XZCPB1151L2**	**XZCPB1251L2**
	L = 5 m	**XZCPB1151L5**	**XZCPB1251L5**
Weight (kg)		0.114 (L = 2 m) 0.259 (L = 5 m)	0.113 (L = 2 m) 0.258 (L = 5 m)

Characteristics

Certifications		cULus
Connection type		Screw threaded (nickel clamping ring)
Cable material	Sheath	PUR, shielded
	Conductor insulation	PP
Degree of protection		IP65, IP67, IP69K
Ambient air temperature	Static cable	-40…+90 °C
	Flexing cable	-25…+80 °C
Conductor c.s.a.		5 x 0.34 mm²
Cable diameter		5.85 mm
Nominal voltage		250 V ~, 60 V ⎓
Nominal current		4 A
Insulation resistance		> 10^9 Ω
Contact resistance		≤ 10 m Ω

Connections

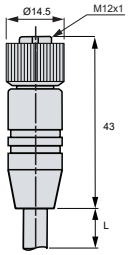
XZCPB1•51L•



BN: Brown
WH: White
BU: Blue
BK: Black
GR: Grey

Dimensions

XZCPB1151L•



L = 2 or 5 m

XZCPB1251L•

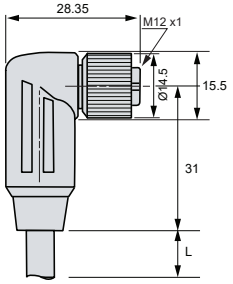


Photo-electric sensors

Cables for sensors, PVC

Jumper cables M12-M12, 4-pin/4-pin

Male connector type		M12, 4-pin, straight	
Female connector type		M12, 4-pin, straight	M12, 4-pin, elbowed
Number of conductors		4	

References

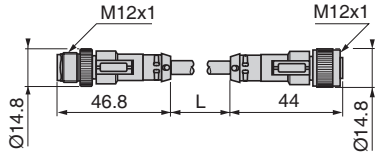
PVC cable	L = 1 m	**XZCRV1511041C1**	**XZCRV1512041C1**
	L = 2 m	**XZCRV1511041C2**	**XZCRV1512041C2**
	L = 5 m	**XZCRV1511041C5**	**XZCRV1512041C5**
Weight (kg)		0 070 (L = 1 m) 0 .110 (L = 2 m) 0 230 (L = 5 m)	

Characteristics

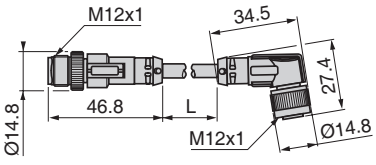
Certifications		cULus
Connection type		Male and female: screw threaded
Cable material	Sheath	PVC
	Conductor insulation	PP
Degree of protection		IP65, IP67
Ambient air temperature	Static cable	-25…+80 °C
	Flexing cable	-5…+80 °C
Conductor c.s.a		4 x 0.25 mm²
Cable diameter		4 6 mm
Nominal voltage		250 V ∿, 300 V ⎓
Nominal current		3 A
Insulation resistance		> 10^9 Ω
Contact resistance		≤ 5 m Ω

Dimensions

XZCRV1511041C1, XZCRV1511041C2, XZCRV1511041C5



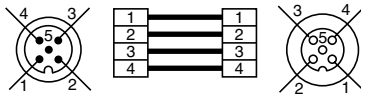
XZCRV1512041C1, XZCRV1512041C2, XZCRV1512041C5



L = 2, 5 or 10 m

Connections

XZCRV1511041C●, XZCRV1512041C●



1: Brown
2: White
3: Blue
4: Black

Photo-electric sensors

Cables for sensors, PUR shielded
Jumper cables M12-M12, 3-pin/5-pin

Male connector type		M12, 5-pin, straight
Female connector type		M12, 5-pin, straight
Number of conductors		5

References

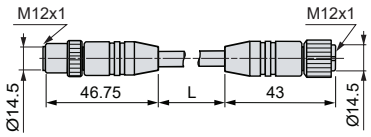
PUR cable	L = 2 m	**XZCRB151151C2**
	L = 5 m	**XZCRB151151C5**
Weight (kg)		0.123 (L = 2 m) 0.267 (L = 5 m)

Characteristics

Certifications		cULus
Connection type		Male and female: screw threaded
Cable material	Sheath	PUR, shielded
	Conductor insulation	PP
Degree of protection		IP65, IP67, IP69K
Ambient air temperature	Static cable	-40…+90 °C
	Flexing cable	-25…+80 °C
Conductor c.s.a		5 x 0.34 mm²
Cable diameter		5.85 mm ± 0.15 mm
Nominal voltage		250 V ∿, 60 V ⎓
Nominal current		4 A
Insulation resistance		> 10^9 Ω
Contact resistance		≤ 10 mΩ

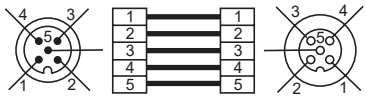
Dimensions

XZCRB151151C2, XZCRB151151C5



L = 2 or 5 m

Connections



1: Brown
2: White
3: Blue
4: Black
5: Grey

Photo-electric sensors

Cables for sensors, PUR

Jumper cables M8-M8, 3-pin/3-pin or 3-pin/4-pin

Male connector type		M8, 3-pin, straight		
Female connector type		M8, 3-pin, straight	M8, 3-pin, elbowed	M8, 4-pin, straight
Number of conductors		3		

References

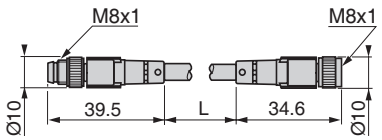
PUR cable	L = 1 m	**XZCR2705037R1**	**XZCR2706037R1**	**–**
	L = 2 m	**XZCR2705037R2**	**–**	**XZCR2709037S2**
Weight (kg)	L = 1 m	0 065		
	L = 2 m	0 090		

Characteristics

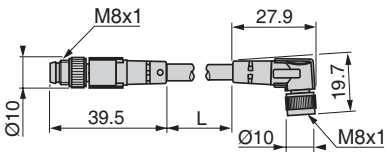
Certifications		cULus
Connection type		Male: screw threaded and clip .Female: screw threaded .Metal clamping ring .
Cable material	Sheath	PUR
	Conductor insulation	PP
Degree of protection		IP65, IP67, IP69K
Ambient air temperature	Static cable	-35…+90 °C
	Flexing cable	-5…+90 °C
Conductor c.s.a.		3 x 0.34 mm^2
Cable diameter		5 2 mm
Nominal voltage		60 V ∿, 45 V ⎓
Nominal current		4 A
Insulation resistance		> 10^9 Ω
Contact resistance		⩽ 5 m Ω

Dimensions

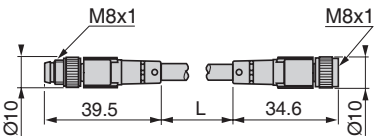
XZCR2705037R1, XZCR2705037R2



XZCR2706037R1



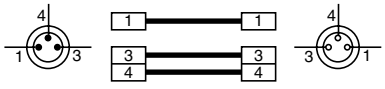
XZCR2709037S2



L = 1 or 2 m

Connections

XZCR2705037R1, XZCR2705037R2



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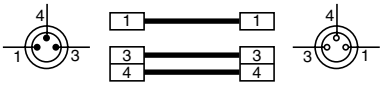


XZCR2709037S2

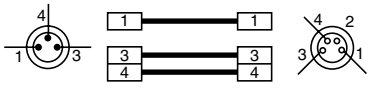


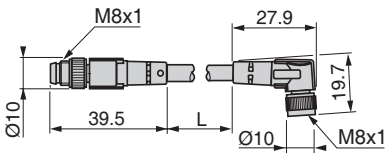
Photo-electric sensors

Cables for sensors, PUR

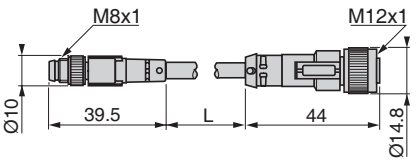
Jumper cables M8-M8 and M8-M12, 3-pin/4-pin or 3-pin/5-pin

Male connector type		M8, 3-pin, straight		
Female connector type		M8, 4-pin, elbowed	M12, 5-pin, straight	M12, 5-pin, elbowed
Number of conductors		3		
References				
PUR cable	L = 1 m	**XZCR2710037S1**	**XZCR2711037T1**	**XZCR2712037T1**
	L = 2 m	**XZCR2710037S2**	**XZCR2711037T2**	**XZCR2712037T2**
Weight (kg)	L = 1 m	0 065		
	L = 2 m	0 090	0 093	
Characteristics				
Certifications		cULus		
Connection type		Male: screw threaded and clip .Female: screw threaded .Metal clamping ring		
Cable material	Sheath	PUR		
	Conductor insulation	PP		
Degree of protection		IP65, IP67, IP69K		
Ambient air temperature	Static cable	-35…+90 °C		
	Flexing cable	-5…+90 °C		
Conductor c.s.a.		3 x 0.34 mm^2		
Cable diameter		5 2 mm		
Nominal voltage		60 V ∼, 45 V ⎓		
Nominal current		4 A		
Insulation resistance		> 10^9 Ω		
Contact resistance		⩽ 5 m Ω		

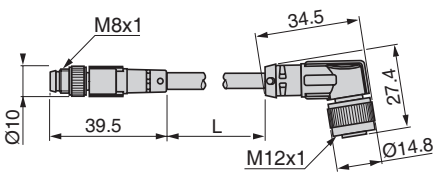
XZCR2710037S1, XZCR2710037S2



XZCR2711037T1, XZCR2711037T2



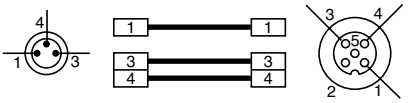
XZCR2712037T1, XZCR2712037T2



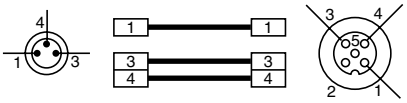
L = 1 or 2 m

XZCR2710037S1, XZCR2710037S2

XZCR2711037T1, XZCR2711037T2



XZCR2712037T1, XZCR2712037T2



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